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# USSR Report

TRANSPORTATION



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## CIVIL AVIATION

### AVIATION WORKERS PLENUM REVIEWS FUEL CONSERVATION PROGRESS

Moscow VOZDUSHNYY TRANSPORT in Russian 7 Apr 84 pp 1-2

[Report by A. Zuyev, chairman of the Aviation Workers Trade Union Central Committee, and subsequent discussion of the report by civil aviation officials at the trade union central committee's sixth plenum in Moscow 4 April: "Resolve the Problems of Intensive Development of the Economic System More Energetically"]

[Excerpts] The Sixth Plenum of the Aviation Workers Trade Union Central Committee was held in Moscow on 4 April. The plenum examined the problem "On the tasks of aviation workers trade union organizations to intensify economy of fuel and power and other material resources in light of the decisions of the February (1984) Plenum of the CPSU Central Committee and the positions and conclusions contained in the speech at it by Comrade K. U. Chernenko, general secretary of the CPSU Central Committee."

V. A. Zuyev, chairman of the trade union central committee, delivered a report.

Taking part in discussion on the report were V. Visitskiy, chairman of the Northern Terkom [Territorial Committee]; A. Makarov, Il-62 aircraft commander of the Domodedovo Production Association; O. Bayev, chairman of the Northern Caucasus Terkom; A. Goryashko, chief of the Ukrainian Administration of Civil Aviation; L. Konovalov, chairman of the Arkhangelsk Terkom; N. Anan'yev, chairman of the Yakutsk Terkom; L. Svechnikov, deputy minister of civil aviation; and others.

The plenum approved an appropriate resolution on the problem under discussion.

The plenum considered an organizational matter. A. Lukanin, chairman of the Tyumen Terkom; A. Ul'yanov, Yak-40 aircraft commander of the Krasnoyarsk Aviation Enterprise; O. Bayev,

chairman of the Northern Caucasus Terkom; and V. Sidorchuk, engineer of the Zaporozhye Aviation Training Center of the DOSAAF, were promoted from candidates to members of the Aviation Workers Trade Union Central Committee.

Taking part in the work of the plenum were A. M. Subbotin, AUCCTU secretary; responsible officials of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU, the USSR Gosplan, the USSR State Committee for Labor and Social Problems, the USSR State Committee for Hydrometeorology and Environmental Control, and the USSR DOSAAF; chiefs of a number of administrations of the central organization of the Ministry of Civil Aviation; chairmen of republic, territorial, association and trade union committees; and advanced workers and production innovators.

Aviation workers, as well as all the Soviet people, V. A. Zuyev said in his report, warmly approve the results of the February (1984) Plenum of the party's Central Committee and the selection of Comrade Konstantin Ustinovich Chernenko as the general secretary of the CPSU Central Committee. The decisions of the February (1984) Plenum of the CPSU Central Committee have established high political and labor readiness in the country and have headed labor collectives toward further implementation of the decisions of the party's 26th congress and subsequent plenums of the CPSU Central Committee, and toward unconditional fulfillment of the plans and pledges for 1984 and the five-year plan as a whole.

Last year the CPSU Central Committee and the government approved a number of decrees on fundamental problems in development of the economic system and the Energy Program of the USSR was confirmed. One of its key directions is every possible economy in fuel and power and other material resources and reduction of their consumption per unit of output produced by each sector of the national economy.

The aim taken at economy and thrift has special significance for the successful work of civil aviation. Aeroflot is the largest consumer of fuel and power resources, primarily aviation kerosene.

Satisfaction of the requirements of the national economy and the public for air transportation now is defined by the limits of aviation fuel. For this reason, civil aviation workers have pledged to reduce the proportionate consumption of aviation kerosene, and as a result of this fuel has been economized for an additional 1.8 billion passenger-kilometers and to treat an additional 1.2 million hectares of agricultural land resources. Pledges have been made to save 2,000 tons of motor vehicle gasoline and diesel fuel and 20 million kilowatt-hours of electric power, and to obtain an economic gain from introducing inventions and rationalization proposals in the amount of 38 million rubles.

All this inspires confidence that the party's target for achieving an above-plan increase of 1 percent in labor productivity and a reduction of production cost by 0.5 percent in the sector will be fulfilled.

But making socialist pledges is essentially only the initial point for mobilizing labor collectives in the struggle to fulfill the tasks which have been set. Success in the work can only be ensured by daily, specific and purposeful work by trade union committees and economic managers.

At a recent meeting of the MGA [Ministry of Civil Aviation] Collegium and the presidium of the trade union's central committee, the operations for 1983 and for the period following the party's 26th congress were summed up. Together with an analysis of the sector's work as a whole, the results of work to economize fuel and power resources also were examined.

It was noted that as a result of implementing a number of measures to reinforce discipline and increase the extent of organization, businesslike efficiency and responsibility in work by personnel at all levels of economic and trade union activity, positive progress has been traced in resolving the problems of reinforcing the practice of economy.

The results of 3 years of the five-year plan corroborate this convincingly: civil aviation enterprises provided a 9-percent increase in the volume of aviation operations during this period without increasing fuel consumption. This was achieved through improvement in utilization of airplanes and helicopters for commercial loads and without increasing the number of workers. The proportion of fuel consumption for the Ministry of Civil Aviation as a whole in 1983 was significantly reduced. The production cost of 1 adjusted ton-kilometer was reduced. Above-plan profit was obtained.

At the same time, we should not overestimate what has already been done. In his speech before voters in the Kuybyshev electoral district of the city of Moscow, Comrade K. U. Chernenko, general secretary of the CPSU Central Committee, noted: "...what has been achieved is only the beginning of important work. We have a great deal of business, and urgent business. We can and want to move forward more rapidly. We can and must resolve the problems of intensive development of the economic system much more energetically."

In this connection, we are faced with carrying out important work to eliminate shortcomings and to consistently and persistently continue the line to raise the level of economic management and the role of trade union committees in intensifying the practice of economy. The matter was raised precisely this way at the Seventh Plenum of the AUCCTU. The program for trade unions' participation in solving the tasks of economizing raw material, materials and fuel and power resources in the 1982-1985 period also directs us toward this. The basic objective of the program is to strive, through all forms of organizational and educational work, primarily through socialist competition, to ensure that every enterprise and every labor collective works with material resources which have been economized for not less than 2 days per year.

Experience that already has been accumulated attests to the fact that such a task is practicable. Last year on the day of the All-Union communist subbotnik, more than 3,000 crews, brigades, sections, shops, and on the whole, enterprises which successfully conducted flights and turned out production



valued at more than 600,000 rubles worked with raw material, materials and fuel which was economized. All collectives in civil aviation have actively supported the patriotic initiative of the workers of Moscow to hold a communist subbotnik on 21 April this year.

The speaker particularly stressed the tasks which lie ahead of trade union committees and economic managers to provide the necessary conditions for highly productive labor by aviation workers. We must strive to ensure that special calculations of savings are revealed everywhere and to actively encourage those who achieve the best results. Only under such conditions will civil aviation workers be able to fulfill the increased socialist pledges to provide an above-plan increase in labor productivity and reduction of production cost.

It is exceptionally important to provide for general dissemination of the initiative of the Azerbaijan, Latvian and Kirghiz administrations and the Main Agency [Glavagentstvo] of the Ministry of Civil Aviation, and plants Nos 404, 407 and 409, SMU-3, SMU-11 [construction and installation administrations 3 and 11], and a number of other collectives which have approved higher pledges and counterplans.

However, some collectives of the UGATs [Central Regions Administration of Civil Aviation] and the Moldavian, Tajik and Tyumen administrations and Aviastroy still do not have counterplans for labor productivity and reduction of production cost. This attests to the fact that chairmen of RTK's [territorial committees] and chiefs of these administrations have approached further development of the labor collectives' initiative in drafting and fulfilling counterplans without the proper responsibility.

While in the Ministry of Civil Aviation as a whole the plan for the first quarter of the current year has been successfully fulfilled, a number of administrations have not coped with the planned tasks, including the East Siberian, West Siberian, Far East, Kazakh, Tajik and Tyumen administrations. It is necessary for the chairmen of these RTK's, jointly with economic managers locally, to carefully investigate the reasons for failure of the targets and to take steps to ensure that every collective provides for fulfillment of the pledges and counterplans made.

The principal reserve here is further reinforcement of the practice of economizing labor and material resources, especially aviation fuel. To carry out this task it is extremely important to activate competition among flight crews for personal accounts of the efficiency and economy of every flight.

At present, we have established all the conditions to ensure that 100 percent of the crews take part in such competition. Considerable experience in organizing such competition has been accumulated at the Domodedovo, Borispol, Vilnius, Sverdlovsk, Tashkent, and a number of other aviation enterprises. However, it is being utilized by far from all crews, even in the Leningrad Administration, where competition among crews for personal accounts of economy was originated at the initiative of aircraft commander A. Kazakov.

As a result of such an approach to the work, some collectives did not keep within the limits for aviation fuel consumption in 1983 and the first quarter of this year. They include the Arkhangelsk, Far East, Magadan, Tajik and other administrations.

With the aim of improving material incentive to the work of the crews which are striving to reduce the proportion of aviation fuel, the size of the bonus in 1984 is being established in accordance with the actual number of hours of accrued production flight time. For this reason, trade union committees, jointly with economic managers, must review and, where necessary, provide more precise definitions and supplements in the regulation on payment of bonuses to flight personnel for economy in GSM [fuel and lubricants], taking local conditions into account.

A thrifty, zealous approach to the work still has not become the rule everywhere. Thus, with overall improvement in utilizing the cargo capacity of airplanes and helicopters in 1983, the Far East and Tajik administrations did not ensure fulfillment of the plan for commercial loads on most departing aircraft. In these administrations, along with an overall low level of flight organization, opportunities for competition between the combined shifts of the airports are being poorly utilized.

At the third plenum of the trade union's central committee, the chairman of the Far East Terkom and the chief of the administration were told about the intolerance of the situation. However, radical improvement in the organization of air shipments has not taken place. Not only is the productivity of flights decreasing here, but the proportionate consumption of fuel is increasing as well.

We would like to hope that the chairmen of the Far East and Tajik RTK's, together with the administrations' managers, will draw the correct conclusions and take every step to eliminate the shortcomings cited.

In the struggle to reinforce the practice of economy and reduce unproductive fuel losses, a great deal depends on the weather forecasters who serve several million aircraft departures annually. However, despite a definite decrease in the number of returns and discontinued flights because of unjustified weather forecasts, according to Aeroflot data, the amount of unproductive flight time accrued remains significant all the same.

Individual factors of lack of discipline and responsibility and shortcomings in training work, especially at operations points, and inadequate attention to these most important problems by certain trade union committees, as well as unsatisfactory utilization of administrative and social influence measures, have a negative effect on the efficiency and work quality of air transport. Shortcomings of precisely this type have existed in the First Tyumen Aviation Enterprise.



We hope, the speaker noted, that republic, territorial and trade union committees locally will raise the level of organizational work and personal responsibility for reinforcing discipline and establishing the necessary conditions for work, everyday life and relaxation of special-use flight crews with the aim of ensuring the success of their work. The work of technical inspection centers and accredited physicians has to be reinforced in this direction. The opportunities of local party and soviet organs, soviets, trade unions, and rayon agroindustrial associations, as well as the organizations of Sel'khoztekhnika and Sel'khozkhimiya, kolkhozes and sovkhoses, should be more actively utilized.

In light of the tasks set by Comrade K. U. Chernenko, general secretary of the CPSU Central Committee, at the All-Union Conference on Problems of the Agroindustrial Complex, it is now especially important to conduct an experiment in accordance with the shift of the sector's enterprises to the new system of planning and material stimulation of air chemical treatment operations.

The experience of the Belorussian Administration attests to the fact that introducing as a basic indicator the area in hectares treated, instead of the accrued flight time, has made it possible for them to significantly increase the productivity of flights and reduce their production cost, and to ensure aviation fuel economy.

Since 1 April this year, enterprises in the Ukraine, the Northern Caucasus, the Volga region, and the Turkmen and Lithuanian SSR's have been included in the experiment. From the very first days, the chairmen of these RTK's have to more actively direct the crews toward achievement of the best end results with the least expenditures.

The ground-based services of aviation enterprises are an important component in reinforcing the practice of economy of material and fuel and power resources. Unfortunately, cases of fuel losses during its transportation and storage are still not infrequent. Gross violations are permitted in calculating fuels and lubricants. Inventory of them at depots is sometimes performed formally, without observing established periods, especially in the Far East and Moldavian administrations. Similar facts also have been brought to light in the Ukrainian Administration as well, particularly in conducting air chemical treatment operations out of touch with the base.

At individual aviation enterprises, and mainly the East Siberian, West Siberian, Volga Region, Kirghiz and Turkmen administrations, there are quite a few shortcomings in the work of motor vehicle transport. Gross violations in the technical operation of vehicle transport and in financial, allocation and labor discipline have been brought to light at the motor vehicle base of the Aviatekhsnab association.

It is necessary to put in proper order the consumption of boiler and furnace fuel and electric power, especially in the Tyumen, Yakutsk, UGATs, Belorussian, East Siberian and Krasnoyarsk administrations. Supervision of coal, fuel oil and gas consumption in the civil aviation training institutions and at plants Nos 41 and 403 is practically nonexistent.

Cases of mismanagement, misappropriation of socialist property and other abuses inflict serious harm on the work. Precisely such cases have existed in the Ukrainian and Northern Caucasus administrations, including the Odessa, Rostov, Volgograd, Krasnodar, Voronezh, Ukhta and a number of other aviation enterprises. The safety of socialist property at a number of plants of the All-Union Association Aviaremont has been organized unsatisfactorily.

One of the reasons for all these occurrences is that trade union committees locally do not always give an evaluation based on principle to negative facts and violations and do not take active steps to eliminate them.

V. A. Zuyev noted that an important place is held in the combination of economy measures by the All-Union Public Review of Efficiency in the Use of Raw Material, Materials and Fuel and Power Resources. However, work to ensure publicity and visual aids to illustrate the course and results of the review has been performed poorly in certain enterprises and organizations. Advanced experience accumulated in the course of developing socialist competition is inadequately utilized in this effort. These shortcomings are characteristic to a considerable degree in the work of trade union organizations of the Far East, Krasnoyarsk, Northern, Moscow territorial, and Tajik republic committees. In addition, in these committees as well as in the Kazakh, Ukrainian republic and Tyumen territorial committees, wage-leveling in incentives for winners in socialist competition and the public review still has not been eliminated. The periods for payment of bonuses are not being maintained everywhere. They often are turned into a simple supplement to wages, and are not coordinated with the end results.

Social justice is a norm in our life. And this most important principle, as stressed at the February (1984) Plenum of the CPSU Central Committee, should be strictly observed in everyday work, whether it involves wages and bonuses, assignment of quarters or travel authorizations, or decorations--in a word, so that everything is done in accordance with the labor contribution of each person in our common work.

In the struggle against shortcomings, trade union committees, jointly with economic managers, should take fuller advantage of the rights granted by decrees of the CPSU Central Committee, the USSR Council of Ministers, and the AUCCTU on reinforcing socialist discipline, as well as the Law on Labor Collectives. It is important to make the work of comrades courts more active and to reinforce the legal training of aviation workers.

It has been demonstrated in practice that a necessary condition for success in implementing a strict regime of economy is the broad participation in this effort by the workers themselves and the energetic introduction of the brigade form of organizing labor and brigade cost accounting. However, the brigade method with the application of KTU [coefficient of labor participation] is being slowly introduced by us at this time, and mainly in operations and in Aviastroy.

The experience of the collective of the Volga Region Administration should be more fully utilized in order to eliminate these shortcomings. They have been engaged in introduction of the brigade form here for over 6 years now. It is necessary for the Center for Scientific Organization of Labor and Administration of Production of the Ministry of Civil Aviation and its regional subdivisions to conduct work more actively in this direction.

Examples may be cited when the interaction of scientific subunits and production collectives yields a good result, especially in the work of reinforcing the practice of economy. It is enough to say that, for developing and introducing a combination of new engineering advancements to provide aviation fuel economy for flights on Aeroflot's international air routes, a large collective of the persons responsible was awarded the prize of the USSR Council of Ministers.

At the same time, increased demands for economy of material and fuel and power resources require further stimulation of work by sectorial scientific research organizations in this field, especially the GosNII GA [State Scientific Research Institute of Civil Aviation] to improve the norms for consumption of aviation fuels and lubricants and the TsNII ASU [Central Scientific Research Institute of Automatic Control Systems] for the development of flight records [reysovyye kartochni].

In solving the problems of economy, we have to reinforce interaction of our institutes with scientific, design and production collectives of the Ministry of the Aviation Industry, since operations to improve series aviation equipment, as well as the aircraft engines being used, are still being carried out slowly. The GlavNTU MGA [Main Scientific and Technical Administration of the Ministry of Civil Aviation] should take every step to ensure unconditional fulfillment of the goals of the "Comprehensive Program of the Ministry of Civil Aviation and the Ministry of the Aviation Industry to Reduce Fuel Consumption by Mainline Civil Aviation Aircraft" in the periods established and on a high scientific and technical level.

Important assistance can be rendered in resolving the problems of economy by our inventors and efficiency experts. But it should be recognized that the trade union central committee and the RTK's are still directing them poorly toward solution of the task of reinforcing the practice of economy. This work has been poorly organized in the East Siberian, Turkmen and Estonian administrations; at plants Nos 24, 31, 243, 402, 408 and 411; and at the Kirovograd Higher Flight School and the Moscow Institute of Civil Aviation Engineers.

In order to stimulate the activity of inventors and innovators, we also have to intensify the work of the section attached to the trade union central committee to improve its interaction with territorial councils of the VOIR [All-Union Society of Inventors and Innovators], and to direct their activity toward developing proposals for economizing fuel, electric power, metal and building materials.

In a meeting with workers of the party's Central Committee organization, Comrade K. U. Chernenko, general secretary of the CPSU Central Committee, emphasized that solution of the tasks facing the country depends directly on an increase in the level of party leadership. In this regard, the matter of further improving the style and methods of work and reinforcement of responsibility by workers of the apparatus of party committees is being advanced to the agenda.

All these requirements relate in full measure to trade union organs as well, from the central committee to trade union committees locally. It is important to ensure that our trade union committees thoroughly analyze the actual state of affairs, promptly and responsively detect that which is new, and introduce well-thought-out, practical suggestions. At the same time, it is necessary to strengthen ties even more closely with the masses, demonstrate more business-like efficiency and organization in work, and go to labor collectives more frequently, as required by the CPSU Central Committee decree "On the work of the central committee of the trade union of heavy machine building workers."

Unfortunately, lively exchanges with people still have not become the norm for all trade union committees. Thus, in a check of workers' complaints at the ATB [air maintenance base] of the Irkutsk Aviation Enterprise by a commission of the trade union central committee and the Ministry of Civil Aviation, it was established that workers of the East Siberian Terkom and managers and specialists of the administration, in visiting the labor collectives, do not thoroughly understand the workers' everyday needs. They do not react to the criticism voiced at meetings and conferences, which gives rise to complaints. The trade union's central committee presidium has strictly penalized the terkom chairman for this.

In conclusion, V. A. Zuyev assured our party's Central Committee and the AUCCTU that aviation workers will make a worthy contribution to fulfillment of the decisions of the party's 26th congress and subsequent plenums of the CPSU Central Committee and of the positions and conclusions contained in speeches by Comrade Konstantin Ustinovich Chernenko, general secretary of the CPSU Central Committee.

\* \* \*

L. Svechnikov, deputy minister of civil aviation, speaking in discussions on the report, said that comprehensive work is being carried out to increase efficiency in the use of fuel and power resources. In 1983 it was directed at implementation of "The Comprehensive Program of the MGA and the Ministry of the Aviation Industry to Reduce Fuel Consumption by Mainline Civil Aviation Aircraft" and "The Sectorial Program for Fuel Economy in the 1981-1985 Period." Measures have been continued to reduce aviation fuel consumption by lowering the cruising speeds of flights on straightened routes and at the most advantageous flight levels, as well as through work to improve airspace assignment and the interaction of YeS UVD [Unified Air Traffic Control System] centers and zonal YeS UVD's in the efficient distribution of aircraft in accordance with alternate airports.



The sector's advanced collectives have accumulated positive experience in economizing resources. However, we have individual aviation enterprises where proper attention is not being devoted to the problems of reinforcing the practice of economy. For example, last year the Krasnoyarsk, Tyumen and Urals administrations and the UGATs permitted excessive consumption of aviation kerosene, and the East Siberian, Kazakh, Volga Region and Komi administrations permitted excessive consumption of aviation gasoline. Despite significant reduction in the relative consumption of aviation kerosene in the Ministry of Civil Aviation as a whole, consumption increased for certain types of aircraft in the Kirghiz, East Siberian, Arkhangelsk, Estonian, and a number of other administrations.

It is necessary to instill a thrifty attitude toward the people's property in every worker in all collectives by all means and methods. In this concern the basic burden lies on party and trade union organizations which, as experience shows, can and should do a great deal with the correct approach.

\* \* \*

A. Goryashko, chief of the Ukraine Administration, noted that last year the collective reduced relative consumption of aviation fuel per unit of transportation output by nearly 4 percent against the plan. This provided a significant savings in aviation kerosene. In addition to reducing relative consumption, a number of other steps also are being taken with the aim of economizing fuel in the administration. However, there are a number of substantial shortcomings in this work. Propaganda of advanced experience in economy and thrift is poor, for which trade union organizations, together with economic managers, also are at fault. The brigade method of labor organization is being introduced slowly in the administration. Although the number of brigades was tripled last year compared with 1982, which provided an annual economic gain of 252,000 rubles, only 12 percent of the workers have been employed in brigades. And even such a small number in brigades provided an increase of 0.32 percent in labor productivity. Consequently, we need to concern ourselves with this more actively.

\* \* \*

"As experience demonstrates, innovators and inventors can do a great deal for economy," N. Anan'yev, chairman of the Yakutsk Terkom of the trade union, emphasized in his statement. "Thus, in 1984 a rationalization proposal by L. Tkachenko, an aviation technician at the Mirninskiy Aviation Enterprise, was introduced: 'an electric heater to maintain the temperature of aviation engines in a state of readiness for startup in low temperatures.' Use of this device makes it possible to save 12.5 tons of kerosene when two heaters in combination are used on the An-24 and An-26 aircraft. In addition, motor vehicle gasoline is saved and the work force is reduced."

At the present time, 24 heater combinations have been made in the administration through its own efforts and are in use, yielding an overall economic gain of 524,000 rubles annually. Evidently, there is a need to put such equipment into use in other civil aviation administrations which are operating under low-temperature conditions.

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## CIVIL AVIATION

### CHRONIC FUEL SHORTAGES IN VOLGA CIVIL AVIATION ADMINISTRATION

Moscow VOZDUSHNYY TRANSPORT in Russian 31 Mar 84 p 2

[Article by A. Sherstnev, special correspondent: "A Change in the Locations of Items...."]

[Text] "Yes, I remember well the complaint of that crew. Here is the entry".

On 4 September of last year, M. Stepantsov, a Tu-134 commander who had completed trip No. 7873 Minsk-Begishevo-Karaganda-Alma/Ata, wrote in the log that the trip had been delayed for several hours because of the untimely refueling of the aircraft. Thereupon the crews starting time had ended, and he was forced to take a rest.

Upset, M. Al'mukhamedov, the chief of the Begishevo airport's air controller service, continues: "What could we do? At the time, restrictions on refueling were occurring endlessly. Fuel was being delivered by fuel tanker from the city of Kuybyshev. It goes without saying that all trips were sent only to the closest landing point -- most frequently for refueling in Ufa and Kuybyshev. Thus it turned out that its crew had completed its medical time when its turn came for the Minsk trip. Of course, we discussed this case in the services and during the critiques as is stipulated, and someone was punished. However, it would not be fundamentally true to reduce everything to particulars. The question is much more serious."

Begishevo, which is an attached airport of the local airlines, long ago overtook many base airports according to departures (almost 600,000 passengers last year). It serves the young and rapidly growing cities of Brezhnev, Nizhnekamsk, Menzelinsk, and Mendeleyevsk and the rayon where the Kama Motor Vehicle Plant is located and where the Tatarsk Nuclear Power Station is being constructed. The demand for air transportation is far from being fully satisfied. The situation is still being complicated by the fact that the airport regularly does not have a sufficient amount of kerosene. Interruptions and delays are setting in -- and quite often for one and the same reason: the absence of fuels and lubricants. The log of the aircraft commanders flashes with claims in connection with this. A. Romanov, a Tu-134 commander from Mineralnye Vody, asks: "The absence of fuel at the airport makes crews nervous and is reflected in the quality of the flights. When will it end?" Weeks ago, a crew from Belorussia proposed a radical measure -- "Close the airport".

V. Ushenkin, the head of the airport, agrees not without bitterness: "It happens that indeed we might as well close it. The question of fuel supply was recently raised at a party meeting. The communists decided to send a letter on this matter. You may be acquainted with it."

The letter, which was addressed to the Tatar Party Obkom, was alarming and well reasoned and contained calculations and estimates. The questions, which the communists raised, became the subject of our discussions with V. Popov, who was performing the duties of the chief of the Volga Administration's fuel and lubricants department. He provided me with the following information:

Over the course of a number of years, the airports at Kazan, Ulyanovsk, Saratov, and Begishevo and -- to a lesser degree -- those of Penza and Bugulma have continuously experienced difficulties with the supply of aviation kerosene. Thus, during 11 months of last year, the delivery plan for the Kazan airport was set at 41,300 tons less than the requirement; for Ulyanovsk -- at 32,500 tons; and for Saratov and Begishevo -- at 25,100 and 18,000, respectively. The actual dispatch was significantly lower. As a result, refueling restrictions were introduced 79 times at Kazan, 114 times at Ulyanovsk, 125 times at Begishevo, and 49 times at Saratov. Saratov's debt to cooperating organizations is approximately 5,000 tons of aviation kerosene.

Nevertheless, the trips which have been provided for by the schedule and the flight plans of their own fleet and of the in-transit fleet, have been completely fulfilled by the listed ports. The question is justified: On what did the airplanes fly?

Yes, as always -- on kerosene -- only on that which was taken in other airports. Does it turn out that the total is not changed by a shift in the position of the items? In this case, alas, this mathematical truth seems worthless. The total is changed and quite significantly.

When refueling restrictions are introduced at Begishevo, Saratov or Kazan, they nevertheless do not forget that it is necessary to fulfill the plan. Therefore, they -- as they say -- willy-nilly agree to receive aircraft with the codicil "have a fuel reserve to the closest refueling point". Accordingly, the crew carried extra fuel -- that which should be obtained at intermediate airports. Thus, for example, they fly to Mineralnyye Vody and Simferopol from the airports of the Volga Administration. They bring with them extra fuel from the Belorussian Administration to the airports on the Volga. They continuously fly from Kazan to Begishevo with refueling at both ends.

Let us take the memorandum for the air controllers and flight personnel for saving aviation fuel and lubricants that was published last year by the State Scientific and Research Institute for Civil Aviation. Here it is: "The carrying of one extra ton of kerosene leads to a 35-50 kilogram over-expenditure of fuel for each hour of flight depending on the type of aircraft."

An even larger over-expenditure is obtained during the trip for refueling.

I. Gurovskiy, the commander of the Ulyanovsk aviation enterprise, said: "When we detail a crew for the Minsk trip with refueling in Ufa, the pilots say that this is not acting in the state's interests. You see, the crew knows perfectly well that the fueling increases the expenditure 1.5-fold -- up to nine tons. Besides everything else, an unproductive flight increases the specific expenditure of fuel, and this is now the main indicator in the competition of flight personnel."

It is also not necessary to leave out of one's calculations the fact that, besides an over-expenditure of fuel, the fueling leads to a decrease in service life and aircraft and landing resources. Surely, the losses here are no less than for fuel. Unfortunately, it is impossible to take into consideration the harm which is inflicted on Aeroflot's prestige. I was given information that there were 863 delays during the year for PUGA alone because of the absence of fuel and lubricants. Actually, there were much more of them for this reason: A considerable part of them were concealed in the so-called PPS-- delays caused by the late arrival of an airplane. Delays have an effect on service standards and give birth to passenger complaints. It is necessary to add to this the ordeals of the crews which in no way contribute to increasing the quality of the flights.

The question naturally arises: Where is the kerosene going that the airports, which are located in a "Cinderella" position, are not receiving? The answer is clear: They plan it for those enterprises which are almost officially called refueling airports. In the Volga Administration, they are Ufa, Kuybyshev and Gorkiy. However, fuel is brought in tank cars to the last two. Strictly speaking, the freight volume on the railroad does not change in toto. Thus it falls heavily on the cooperating partners -- they do not make both ends meet. It turns out where it is empty and where it is crowded. One fact alone confirms this: Gorkiy and Kuybyshev last year did not haul 7,500 and 4,000 tons of aviation fuel, respectively, which had been "imposed" on them by the delivery plan; however, they fulfilled the plan for their own fleet and provided for the entire transit and refueling of trips sent to them from neighboring airports.

It seems that the question is clear. There is a plan for the flights and the types of aircraft and expenditure norms are known -- now even by trip. Multiply -- and the total is ready. However, the planning of deliveries is being adapted to the situation which has taken shape -- probably because of inertia.

The situation with the actual planning of aviation fuel deliveries is being interpreted in light of the materials of the February CPSU Central Committee Plenum where it is said that the planning mechanism still has quite a few weak spots. Several economic tasks are being frequently -- so to say -- adapted to the conditions that are taking shape in this or that region and branch. To put it mildly, it is necessary to be persistent in eliminating this passive approach to planning.

In the aviation enterprises where losses from shortcomings in the planning of aviation fuel deliveries are especially visible, this question evokes a rather

sharp reaction. Here, for example, is the entry left by A. Kolomeytsev, a Tu-134 commander from Mineralnyye Vody, left in the log in the air controllers office at Begishevo airport:

"Flights to this airport have been transformed into true torture for the crews of our aviation enterprise. I have flown to Begishevo since 1979. The absence of refueling for all of these four years not only reduces efforts to save fuel to nothing but also gets on the nerves of the crews and passengers. Each flight for refueling in a Tu-134 brings an over-expenditure of two to four tons of kerosene. It is altogether incomprehensible how such interruptions are possible with a planning system. The pilots and passengers would like very much to know who is guilty and how long this will be continued."

Perhaps, it was said a little abruptly. However, the very essence was singled out and it was expressed from the heart. Thus, it only remains to add our signature to that of the commander.

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## CIVIL AVIATION

### EFFECTS OF LIGHTNING ON AIRCRAFT STUDIED AT SHEREMETYEVO

Moscow VOZDUSHNYY TRANSPORT in Russian 31 Mar 84 p 4

[Interview with Oleg Konstantinovich Trunov, candidate of technical sciences and a department chief in the State Scientific Research Institute for Civil Aviation, by L. Tsesarkin, VOZDUSHNYY TRANSPORT correspondent, at Sheremetyevo airport; date not specified]

[Text] Sheremetyevo Airport. Early in the morning. We are standing near the entrance to the laboratory building of the State Scientific Research Institute for Civil Aviation. But what is that? A sound is heard which reminds one of a peal of thunder. Thunder in March? I involuntarily raise my eyes to an almost cloudless sky.

Oleg Konstantinovich Trunov, a candidate of technical sciences and a department chief in the State Scientific Research Institute for Civil Aviation, says: "You should not look there. The 'thunder' is here, on the ground," and leads me to a building that adjoins the laboratory structure. There is a notice on the doors: "Halt! High voltage!" We enter a building with a 10 meter-ceiling. There are instruments, equipment, shelves, devices, wires, and parts of aircraft.

[Question] Oleg Konstantinovich, for a number of years you have directed research on the "Aircraft and Atmospheric Electricity" problem. It is known that all instructions forbid flying in a thunderstorm and aircraft go around it. Has the broad research in this area been justified?

[Answer] First, it is not true to think that an aircraft being struck by lightning is an extremely rare phenomenon. On the European air routes, aircraft are hit by lightning on the average every 2,400 flying hours. This means that each transport aircraft is annually subjected to the effect of atmospheric electrical charges of various force.

It is necessary to say right out that this problem has not been completely solved today. Lightning is one of the most complicated types of atmospheric phenomena. The study of the "Aircraft and Atmospheric Electricity" problem began during the prewar period. However, even up to the Seventies no generally accepted norm parameters for electrical effects had been developed and there were no sound requirements for the lightning protection of aircraft and satisfactory research and testing methods.



In 1982, a group of specialists in the State Scientific Research Institute for Civil Aviation was given a bonus by an order of the Ministry of Civil Aviation for their system of research and testing and the introduction of lightning protection devices on civil aviation aircraft. At the present time, our native and foreign flight suitability norms contain basic general requirements for protecting aircraft against thunder and static electricity.

[Question] But why are there still cases of aircraft being hit by electrical charges? Doesn't an aircraft fly around the zone of a thunderstorm with the help of on-board and ground radars? What is it -- pilot error?

[Answer] No. In this case, pilot error does not determine the state of affairs. The answer to this question is contained in the following three items. The effectiveness of existing systems for detecting and bypassing zones of electrical activity in the atmosphere is not sufficient. As research shows, the radar error can reach 10 kilometers because of the discrepancy between the zone reflected by cloud particles and the zone of electrical activity and also because of other reasons. That is why, on the one hand, the improvement of radar equipment and, on the other hand, the designing of instruments and equipment, which are based on new principles, are required. This will permit the zone of electrical charges to be determined immediately with sufficient accuracy.

The task of bypassing danger zones will be principally solved only when equipment appears which not only accurately determines the coordinates of lightning, which has already sprung up, but also warns crews about a zone where electrical charges will arise only when an aircraft enters that zone.

In the establishment of the laboratory, we encountered quite a few difficulties because it was necessary to design and create non-standard and -- to a certain degree-- unique equipment for the reproduction of an electrical charge with the parameters of natural lightning. It was not simple to overcome these difficulties, but the institute's directors supported us. We were confident of final success. A great deal of credit in establishing the laboratory belongs to our co-workers Yu. Chistyakov and M. Borisov. This laboratory is the only one in the civil aviation system.

We have performed work that has already provided practical results. For example, recommendations, which have been sent to the design bureaus, have been formulated as a result of research on the lightning resistance of the protective bus bars on aircraft dielectrical fairings.

We are now demonstrating how we "make" lightning. The charge will be significantly less than the rated one, but it is not recommended that you look at the flash. When the instrument indicator approaches this mark, expect "thunder".

...The experiment began. I looked through the glass at an object over which an electrode hung and at the slowly creeping instrument arrow. The device was accumulating energy.



Yu. Chistyakov says: "Pay attention".

There and then there is a blinding flash and a cannon shot; it began to smell sharply of ozone. The "lightning" hit the object; however, the protective bus bar, which was mounted on it, withstood the blow and prevented the destruction of the item.

M. Borisov says: "This is how various items are tested for lightning resistance. In principle, everything is simple when a method has been developed and all preparatory work has been completed."

[Question] That means that when effective anti-lightning systems are completely mounted on aircraft, the need to avoid a thunderstorm decreases?

[Answer] O. Trunov says: Let us begin with the fact that a functioning system, which would completely solve the task of protecting against the dangerous effects of atmospheric electricity, is absent on modern aircraft. There are only individual devices which solve particular tasks. The modern approach consists of regarding the aircraft as a whole when providing for its protection against atmospheric electricity.

Concerning a thunderstorm, into which the entrance of an aircraft is forbidden, I think that even if we are able in the future to force lightning to "bypass an aircraft", I doubt whether transport aircraft will nevertheless fly through storm-clouds. Rather, the solution here will proceed along the path of "removing" thunderstorms from the path of the airplane. That is why the problem of actively affecting thunderstorm processes in the area of airports is one of the very urgent tasks for civil aviation.

[Question] And the last question, Oleg Konstantinovich, I said when we were leaving the laboratory. You are the chairman of an interdepartmental working group for the lightning protection of aircraft. How effective is the coordination of the research being performed on this problem by the different organizations?

[Answer] You have hit the nail on the head, as they say. Coordination is our weak point. The coordination of the work in the area has been placed on our leading institute, and interdepartmental cooperation -- on the work group. It is necessary to improve this coordination. The problem of protecting aircraft against atmospheric electricity is a complex problem that consists of three main elements: the surroundings -- the effect -- the protection. The work must be conducted in accordance with this "triad" if we want to achieve effective results.

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## CIVIL AVIATION

### LAX LABOR PRACTICES AT RIGA AVIATION PLANT

Moscow VOZDUSHNYY TRANSPORT in Russian 31 Mar 84 p 1

[Article by A. Kuvshinov, P. Tyunis, V. Kurochkin, M. Ivanova, inspectors, and R. Kerre, staff correspondent: "Less Idle Time-More Productivity" (from effective repair to efficiency in the industry , a trouble shooting venture to aircraft repair plants)]

[Text] The mechanical equipment which is produced by the Riga Experimental Factory No. 85 includes articulated passenger vehicles, units for containerized shipments, motor trucks with hoisting equipment of various types and desingations, aviation engine heaters, airplane washing machines, filters for fine filtration, industrial vacuum cleaners and many other items. The demand for this equipment is great and this demand is the source of the pressing need for the plant collective to utilize every working minute in order to increase the production of these products.

Production inspectors have actively entered the fight for economical utilizations of operating time.

Recently, instances of labor discipline violation increased at the enterprise, especially by workers on the second shift.

Inspectors conducted a check to verify plant worker observance of the daily work routine. How did it turn out? During the course of the work week 98 workers violated the work routine (they were late to work, left early for their lunch break and also left early at the end of the work day, especially on the second shift). Most of the violations were uncovered in the mechanical shop, and in the senior designer's and senior engineer's departments. In the mechanical shop alone, there were 36 violations. B. Bepalenov, a grinder in this shop, was late to work four times in a week. The check showed that such violations became possible because in the mechanical shop on the second shift there was on duty only one foreman from the supervisory staff, and it was difficult for him to maintain labor discipline.

According to the data from the check, the director of the plant issued an order, and the violators were punished. Their monthly pay premium was reduced by 10 per cent. The head of the mechanical shop Yu. Neplokha who was unable to sustain a high level of labor discipline in his collective was asked some serious questions.

During the check the following picture emerged. In the absence of efficient control, equipment was utilized below capacity (one third of the equipment stood idle).

During the check it became clear that workers unwillingly switched to the second shift. They told night inspectors about many "little things" that interfered with normal work activities. Hot meals were not always available. In the late hours after work it was difficult to get home on public transportation. It was especially difficult for those who lived in Zadvin'ye on the opposite side of the Daugava.

The results of the check showed that those collectives where the brigade form of organization had been introduced with pay based on results were distinguished by a high level of discipline.

A short time later a group of plant inspectors conducted a second check. We were interested in how the shortcomings were eliminated, whether the condition of things had changed, and where there were special difficulties.

Based on the results of the check, measures were taken. The operation of each of the production sections on the second shift was thoroughly analyzed; both equipment utilization and work force distribution were looked at anew. The problem of providing all evening workers standard meals is being resolved. The administration appealed to the management of the Riga bus fleet to increase the frequency of late night buses Nos. 3, 17 and 47 to the city.

The timely measures taken left their mark. There were half as many violators; in the leading shops the machines were working non-stop.

Members of the collective started to feel more responsibility for the state of affairs at the plant. The workers themselves if they noticed someone engaged in unnecessary conversation or on an overlong smoke break made that person aware of this responsibility.

It is true that not all the questions have been resolved as one would have wanted. The plant administration and labor union still poorly publicize operation time losses that have been brought to light.

Minutes that have been saved turn into hours which add substantially to the plan.

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## CIVIL AVIATION

### HELICOPTER REPAIR PROBLEMS IN FAR EAST, SIBERIA DESCRIBED

Moscow VOZDUSHNYY TRANSPORT in Russian 5 Apr 84 p 2

[Article by Ye. Kitov, chief, v/o Aviaremont: "But What if We Establish a Single Base."]

[Text] In the article so entitled (VOZDUSHNYY TRANSPORT No 153, 24 Dec 83) by way of question formulation and discussion, questions were raised that dealt with the improvement of the management of civilian aviation plants which repair large helicopters in areas of Siberia and in the Far East. In particular, it was proposed to establish a production unit on the basis of these enterprises and to specialize some of them to do only repairs on units, parts, fastening hardware, etc.

The article was carefully studied at a meeting in February of this year of the council of directors of the plants of V/O Aviaremont.

The questions about raising the effectiveness of the operations in plants repairing large helicopters that were touched on in the article are timely, and they are the object of the organization management's attention. Recently, a series of questions dealing with cooperation in the repair of units at aircraft repair plants in Siberia and the Far East was resolved. In particular, the labor-consuming repair of several complex units in Mi-8 helicopter transmissions was concentrated in plant Nos. 41 and 401. V/O Aviaremont, having taken into account changes in the structure of the repair fund and the advent of new technology, is planning to define more accurately the specialization of a series of plants in Siberia and the Far East. It is proposed, in particular, to increase the capacity to repair Mi-8 helicopters at plant No. 26 in Tyumen. At the same time, as study of the article in the organization and its discussion at a meeting of the council of directors showed, action on several of the matters raised in the article "But What if We Establish a Single Base" is unsuitable or premature. For example, the specialization of a series of plants only for unit repair, as proposed in the article, would create a situation in which whole areas of Siberia and the Far East would be without plants to repair the Mi-8, the largest helicopter. This would lead to thousand-kilometer flights of equipment to and from repair points and, consequently, to the unproductive expenditure of resources, aviation fuel, etc.

In consideration of the substantial distances between plants, the complexity and time requirements of delivering units and parts to central plants for repair as well as of other factors, the complete conversion of Siberian and Far Eastern plants to plants specializing in the repair of helicopter units and parts is premature.

## CIVIL AVIATION

### BRIEFS

NEW SERVICE TO MALTA, PRAGUE--Two international "premieres" took place at the same time several days ago at the Sheremetyevo-2 International Airport. On 27 Mar an Aeroflot Tu-154 airliner set out on the first regular run from Moscow to Valleta, the capital of the Republic of Malta. These flights were begun in accordance with an inter-governmental agreement between the Soviet Union and Malta signed 8 Oct 1981. A TsUMVS (International Air Services Central Administration) crew headed by V. Ponarmarenko took the plane on the route Moscow-Budapest-Valleta-Casablanca. On the other hand, the air route of friendship and exemplary service, Moscow-Prague, is well known to Soviet pilots. Since 1946 when the inter-governmental agreement was concluded and direct air communication between the capitals of our fraternal countries established, air ties between the USSR and Czechoslovakia have from year to year successfully developed. The utilization on this route of the newest aviation technology has become a distinctive tradition. One need only recall the first appearance of the Tu-104 and the Il-18. Now, the wide-body Il-86 will fly the Moscow-Prague-Moscow route regularly. This is the ninth international line on which the 350-passenger Aeroflot flies. [By V. Degtev, non-staff correspondent] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 31 Mar 84 p 2] 8750

AIRPORT CONSTRUCTION IN NOVGOROD--The construction of a new airport has begun in Novgorod. Every year more than 1.5 million tourists and travellers from various corners of the country and many foreign countries visit this ancient city on the Volkhov River. The new air gateway will help improve services for visitors to the city. [By V. Troyanovskiy] [Text] [Moscow IZVESTIYA in Russian 19 Feb 84 p 2] 8750

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## RAIL SYSTEMS

### RAILWAYS MINISTER ON IMPROVING HAULING PERFORMANCE

Moscow SOVETSKAYA ROSSIYA in Russian 13 Mar 84 p 2

[Article by N.S. Konarev, minister of railways: "The Main Line" (on raising rail traffic efficiency)]

[Text] Transportation. To overestimate its role in economic and social life is difficult. This is especially true for our country whose territory exceeds 22 million square kilometers. The successful activities of industrial and agricultural enterprises and the normal life of large and small cities and villages depend on a reliable transportation system. Every year billions of tons of products are produced in our country. The railroads must work in rhythm with the economy so that these products reach the customer as ordered and on time. This is the goal that party and government decisions and the demands of a dynamically developing economy set for the workers of the rail industry. In the past decade this industry has run into a series of serious problems; it has operated unevenly. The just criticism to which we were subjected in the directive documents is deeply acknowledged by the workers of the industry. Our main task today is to completely remove all existing shortcomings and to strengthen and develop positive changes in the operation of rail transportation. What is the state of affairs now?

At the outset here are a few words about industry operations last year. Railworkers fulfilled their tasks in the shipment of cargo. The shipment plan was completed six days ahead of schedule. The transportation industry (rail) has functioned in a stable manner this year: in January and February more than a million tons of goods were shipped over and above those assigned by plan. If one were to speak about the reasons for these positive changes, one would have to list in the first instance the strengthening of order, organization and discipline.

Little by little we are freeing ourselves from attitudes of dependance: the railroads, they say, work poorly because their development and technical equipment lag behind what is needed. Facts point to the opposite. For example, during the period 1979-1982 a substantial number of the diesel engines on the Alma-Ata Railroad were replaced by more powerful and modern ones. Second tracks were laid, automatic blocking and electric centralized switches and signals introduced. The expenditures were hundreds of millions of rubles. And what was the return? The volume of shipments not only did not grow, it went down; the cost of delivering cargo increased. What was the



reason? It was the inability of the line managers to utilize effectively the potential at hand.

It is obvious that the order, the organization and the discipline are a consequence of those changes that took place in the labor management style of the industry. Take, for example, the following situation. Formerly, if blockages arose on the lines, a brigade from ministry would immediately set out for the blockage. Brigade members would take over for the line and unit managers; they would paralyze their initiative. Numerous meetings were called which took people away from concrete, practical tasks...Sometimes decisions were made to the detriment of neighboring units: just improve local indicators and report that the situation has been changed. Then, after the departure of the authorized representatives, the situation often not only did not improve, but on the contrary got worse. Having analyzed such cases, we became convinced that the "resolute" actions of the management haven't brought measurable success. I will say more: they lower the level of worker responsibility at the work site; they produce passivity. Now not only traffic units but other units like track, car and locomotive units are fully responsible morally and materially for fulfilling the work schedule. We have been able to accomplish something here already: last year, on average, 10 thousand more cars a day past through junction points than the year before last.

Can we rest content with what has been achieved? Obviously, not. Clearly, as CPSU General Secretary K. U. Chernenko noted in his speech to the electorate, the improvements in the economic indicators have thus far been achieved on the basis of reserves that are, one might say, at our fingertips, on the surface...We must go further, in the direction of profound, qualitative changes in the economy. For us this means first and foremost raising the efficiency of transportation. This year's task is to raise the productivity of labor one percent and to reduce hauling costs according to the plan by .5 percent. Without increasing the number of workers, an additional 47 million tons of cargo will be delivered, and an approximately 70 million rubles profit will be achieved. Is this a lot or a little? If you talk about the increase in cargo, then it is equal to the yearly volume of operations of a line like the Transbaykal Railroad. What kind of reserves will be put into action? We once calculated that a 60 percent increase in haulage volume could be gotten by increasing the weight of the trains, another 40 percent by increasing the number of consists. The first option with moderate capital investment noticeably increases rail haulage capabilities. We prefer it. Experience accumulated on the Moscow Railroad convinces us that we have chosen the correct direction. The Moscow Railroad workers were first in the industry to form trains with weights which went beyond usual norms by two and three times. Traffic intensification and the increase of train weight and length comprise the basic reserve which we will urgently utilize.

The initiative of the Moscow rail workers has been known for a long time on all the lines, but not on all of them has their example been followed. To formally rebuke industry leaders would seem to have no justification. Back in 1979 the Ministry of Railways administrators made a decision that obligated line managers to take measures to introduce very useful initiatives. Why did practice lag substantially behind this decision document? The document

was not accompanied by measures of an economic, technical or educational nature. Now we have extracted from this the necessary lesson, we have introduced substantive correctives to the method of sharing valuable experience.

Let's say that these super-weight trains--weight up to 16 tons and more--must be pulled by two and three locomotives. How about the potential increase in personnel which would preclude the necessary increase in labor productivity? We have begun to utilize locomotives more effectively with devices that permit one brigade to run several electric or diesel engines.

The search for economic motivators goes along with the introduction of technical innovation. It's true that the larger the train, the more complex its operation. People must be assured that professional excellence and responsibility will be noted. Therefore, rail line managers have been given permission to raise work premiums up to 60 percent for workers who are engaged in the make-up, technical servicing and the dispatch of super-weight trains.

More attention is being given to the introduction of scientific and technical developments in the area of operations activities. Interesting experience has been gathered on the Belorussian Railroad. An automated system for the effective receipt of information which permits more effective operation of rail transport within the borders of the republic has been established. This method has begun to be implemented by the collectives of six railroads. Another 15 railroads are going to introduce new technology utilizing computers.

As formerly, the state of affairs in passenger transportation alarms us. Last year we improved somewhat the quality of service. Thousands of new cars went on line, and about two thousand ticket selling facilities were added at terminals. The fulfillment rate of passenger train traffic schedules was raised to 99.6 percent. However, even this level does not satisfy us. This year we will continue the work that has been started. In the Moscow Railroad system, for example, the first stage of "Express-2," an automated system for reserving seats on trains and for selling tickets, will be put into operation. All advanced sale ticket offices as well as many Moscow suburban zone stations will be hooked into the system. New routes will be introduced on the Ufa-Novorossiysk, Tyumen-Noyabrsk, and Murmansk-Simferopol lines, and more trains will cover the routes between Moscow and the following cities: Makhachkala, Tambov, Tashkent, Voronezh, Leningrad and Pskov. Also, more than 1500 ticket printing machines and automatic dispensers will be set up in ticket offices.

I would like to stress that the task of improving transportation has a clear inter-industry aspect. Take the reserve potential for reducing irrational transportation of cargo: the reduction of the transportation of identical cargo in opposite directions between two points, excessively long transportation routes, etc. Optimizing transportation networks and routes and further specialization and production cooperation would reduce costs by more than a billion rubles. What prevents this? To a substantial degree it is the economic disinterestedness of the parties concerned in reducing transportation expenditures. Means for transportation are planned according to the principle "From what has been already been secured." Absurd situations arise from this. The Donetsk Railroad, for example, received a plan to ship 68,000 tons of

cement to the Lvov Railroad. Maybe the product was really needed there, but why ship cement of the same brand and in about the same quantity back again out of the Lvov region? Here is another example. Every year enterprises of the Ministry of Timber, Pulp and Paper, and Wood Processing located in the northern Urals ship by rail 250,000 tons of saw logs to customers in the Tyumen region, a distance of 600 kilometers. However, using the same rail line lumber is sent from Siberia to the European part of the country.

Last year we were successful in reducing inefficient shipment of cargo in excess of 30 billion ton/kilometers. Tens of millions of rubles were saved. However, these in the main organizational efforts are clearly insufficient. Economic conditions must be created in which the producers and the consumers of the product would become interested in the reduction of transportation expenses. It seems appropriate to raise tariffs on shipments that are deemed inefficient. It would also be useful when putting together plans to limit cargo turnover and transportation expenditures for each ministry and sales/marketing organization. This type of approach would force organization managers to seek more economical ways to deliver their products. Other measures that concern plans, technology and the economy are necessary in order to resolve this important socio-economic problem.

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## RAIL SYSTEMS

### RAILWAYS S&T PROGRAM PROGRESS IN 1983 SUMMARIZED

Moscow EKONOMICHESKAYA GAZETA in Russian No 14, Apr 84 p 14

[Article by Yu. Shakin, senior expert of USSR State Committee for Science and Technology: 'For Railroad Main Lines']

[Text] In 1983 a number of important targets of scientific-technical programs on railway transportation were fulfilled (a series of reviews was published by EKONOMICHESKAYA GAZETA in 1983). The main part of interdepartmental tests of the 2TE121 two-section diesel locomotive, with a capacity of 4,000 horsepower in each section, was conducted. The locomotive successfully passed dynamic checks for effects on the railroad track and switching points. There was confirmation of its high technical parameters, which permit a 15-20 percent increase in train weight and 10-15 percent increase in speed.

In the future this will be the basic freight diesel locomotive on our main lines. It is equipped with a highly economical four-stroke diesel engine, non-jawed carriages with frame-support suspension of traction motors, and electrodynamic brakes and has a support body and central air conditioning. Such technical solutions place it on the level of the best foreign models and increase substantially the reliability of the locomotive and decrease expenditures for its maintenance and repair.

An industrial-test consignment of passenger cars made from non-nickel stainless steel was manufactured in accordance with the scientific-technical program. This permits radical solution of the problem of corrosion resistance and structural durability and ensures a reduction of body mass and increase of its economy in operation. The necessity for major repair in the process of the entire service life of this railway car, set at 41 years, has been fully excluded. The efficient shapes of thin-walled corrugated metal sections permitted a 1-1.5-millimeter decrease in sheathing thickness instead of the 2-2.5-millimeter thickness used in previous designs. As a result, the weight of the railcar was reduced 2.5 tons.

Acceptance (interdepartmental) tests were completed on an experimental model of an all-metal boxcar with body capacity increased to 140 cubic meters and enlarged doorways for hauling light freight, packages and piece goods. It is equipped with a shock-absorbing automatic coupler of heightened capacity.



There has been a correction in the technical documents, in accordance with which an initial-adjustment series of these railcars will be manufactured in 1984. Their introduction will permit a 15-20 percent increase in payload during the hauling of light freight and ensure overall mechanization in freight handling operations.

Technology has been determined for the production of new refrigerator cars of the "sandwich" type, in the design of which aluminum alloys and foam-polyurethane were used. The "sandwiches", which have higher heat-insulating indices and freight capacity, will not require body repair in the entire course of utilization and will ensure the preservation of perishable goods.

The Tikhoretsk Heavy Railroad Machines Plant imeni V. V. Vorovskiy has developed the series production of a machine for unscrewing, oiling and tightening nuts of PMG-type cleat and insertion bolts, which was built in accordance with the scientific-technical program. One of these machines has the capability of replacing the manual labor of 125 men and of increasing substantially the quality of track repair. A machine of the ROM-3 type, which was also developed in the program, will be capable of replacing 80 men when paired with the PMG machine for cleaning rails and rail reinforcers. This will be a highly productive, unified complex, the series production of which will permit a sharp increase in labor productivity and its quality during track repair work.

Unfortunately, not everything is going smoothly in work on the development of new electric trains of the ER24, direct-current type and ER29 alternating current type, which will have higher technical characteristics and increased comfort for passengers and, in the future, will replace presently utilized designs. Elaboration of their technical documents is being conducted extremely slowly due to the delay of blueprints for assembly-completion equipment by the Ministry of the Electrical Equipment Industry.

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## RAIL SYSTEMS

### IRKUTSK OBLAST CONFERENCE MAPS EAST SIBERIAN RR DEVELOPMENT

Moscow GUDOK in Russian 1 Apr 84 p 3

/Article: "The Future of Regional Transport"/

/Text/ Irkutsk--The Irkutsk CPSU obkom has conducted a sectoral scientific and technical conference devoted to the major trends in the development of transportation in the oblast. The conference was attended by representatives of the Oblast Dom Tekhniki /House of Technology/, and by representatives of the scientific and technical divisions of railway, automotive, river and aviation transport, as well as the highway department. Leading specialists from the appropriate regional administrations and institutes presented reports in which they described in detail the developmental prospects for their sector and the projects which should be completed in order to assure economical transportation in Siberia.

The great significance of the problems that were discussed lies in the fact that important main transportation routes pass through the territory of this region, encompassing several oblasts. These include the Transsiberian Railway, with BAM soon to begin operations. Important transit shipments are carried over the Transsiberian. Current shipments are increasing and new sources of bulk cargoes are being developed--timber products, coal, ores, crude oil and its derivatives. For this reason significant sums are being expended on transportation, existing facilities are being modernized, and new ones built.

In reviewing the developmental prospects for transportation, the conference singled out two periods of work. During the first period it was recommended to increase the weight norm for trains on the main lines to 400 tons and to 600 tons for secondary lines. Also recommended were completing introduction of automated control systems for railway transshipment operations completing the construction of a second track on the Tayshet-Lena line with a fully equipped station and the introduction of automated equipment; rebuilding the Cheremkhovo-Irkutsk section; completing the switchover of the Zima-Slyudyanka section from direct to alternating current, and to ensure the upgrading of the track to handle heavier freight cars such as eight-axle tank cars and other types of rolling stock. It is also essential to build a freight car repair plant in Nizhneudinsk and a number of specialized depots at other terminals, and to establish a base for a machinery industry in Irkutsk.

Freight turnover on the East Siberian line is increasing. The laying of a third track is projected on a number of the sections of the main line, and of a second track on secondary lines, as well as the laying of rail lines to new deposits of ore, oil and gas, coal, and apatite, running into the regions of the future northern Siberia. Also planned are the laying of pipelines and the modernization of automotive route terminals and airports so that a portion of short haul transshipments can be transferred to other means of transportation.

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## RAIL SYSTEMS

### TIMBER SHIPMENT PROBLEMS EVIDENT IN QUARTERLY PERFORMANCE

Moscow GUDOK in Russian 7 Apr 84 p 1

/Article from the dispatch office of GUDOK and of LESNAYA PROMYSHLENNOST:  
"If the Effort Was United:" author not given/

/Text/ As our "dispatch office has already reported, January marked the first time in many years that railway workers and lumbermen met their plan targets for the transportation of timber products. It was expected that, motivated by this labor victory, the workers would mobilize their underutilized capacities and make shipments at a faster pace in the future. The more ambitious targets for February and March, in fact, obligated the participation organizations to achieve just such an increase. However, purchasing agents on a number of main railway lines have been complaining on a daily basis about the lack of freight cars, and railway workers complained about the poor utilization of rolling stock. But the situation has not straightened out the mess. And this was the result; neither the March nor the quarterly targets for timber shipments were met. Just as last year, the October, Northern, Gorkiy, and Sverdlov railways were among the laggards.

At the beginning of last month a serious situation had developed at cellulose-paper enterprises located along the October, Northern, Gorkiy and Sverdlov main lines, in that their warehouses were literally bulging with finished product. The Ministry of Transportation immediately conducted a thorough assessment of the work of the delinquent railroads and divisions and obliged them to take all the necessary measures to correct the situation. Very soon thereafter there was an increase in deliveries of empty freight cars to the Segezhs, Kondopoga, Syas, Arkhangel, Kotlas, Balakhninsk, Kama and other cellulose-paper combines (TsBK).

In turn, collectives at the cellulose-paper enterprises took care to reduce the standing time of the freight cars and to increase their average loads. For instance, employees of the Balakhninsk TsBK adopted a two tiered technique for loading rolls into rolling stock. As a result it became possible to transport in each freight car an average of 3 additional tons of products.

The workers of the Kama TsBK also showed considerable initiative. They organized an active competition to speed up loading operations. Railway employees of the Perm division set up the continuous delivery of empty cars. Subsequently,

the Ministry of Transportation received a report that all of the excessive product inventories had been shipped from the combine.

There were many similar examples of mutual assistance and the wise use of rolling stock in March. Let's keep it up, subcontractors! Particularly since the network has been given the assignment to ship more paper each day in April than in March.

Both ministries have set up daily inspections of the progress of TsBK product shipments. The objective has been set of shipping all excess inventories from warehouses by 15 April at the latest. It is especially necessary to increase the pace of paper shipments from the Syas, Arkhangel, Kondopoga, Segezha, Solikamsk, and Kotlas TsBK and from the Syktyvkar Timbel Products Complex.

At the same time it is essential to see to it that obstacles do not crop up on the shipment route in the future. The best way to assure this is to strengthen the transportation departments of the cellulose-paper enterprises. What happens otherwise, for instance, at the Kondopoga TsBK? Warehouse space is one-fourth of what was projected. There are not enough diesel loaders. The Sortirovochnaya Yard has long been in need of reconstruction. Warmers for unfreezing loads have not been built as yet.

Just as before, the problem of the utilization of leased freight cars is a pressing one. Freight cars are idle for much longer than the accepted standard times at the approach lines of the Arkhangel TsBK, and at the Nemanbumprom, Litbumprom, Estonbumprom, Kaliningradbumprom and Latbumprom enterprises.

There is still a great deal of dispersion in the loading locations for leased empty freight cars. For instance, 55 stations ship raw materials for the Arkhangel TsBK, 52 for the Kotlas, 36 for the Svetogorsk, 16 for the Neman Cellulose and Paper Plant, 17 for the Priozersk Cellulose Plant. Because of this, of course, it is difficult to implement the progressive route shipment technique at these sites.

Freight cars leased during shipping season work especially poorly at only 30-40 percent capacity, or when there is not enough pulpwood in lower warehouses. It would therefore be sensible to establish an economic sanction for both the shipper and the recipient for any above-average idle time for rolling stock.

It is also very important that cellulose-paper enterprises submit to their ministries accurate data concerning finished products that are on hand. The Krasnoyarsk TsBK, for instance, reported in March that it could ship 3,900 tons of paper. This was verified. It turned out they lacked even a 1,000 tons that could be transported and that the remainder are still subject to reprocessing. The question arises: who need this kind of inaccurate information?

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## RAIL SYSTEMS

### MORE ON SHCHERBINKA METRO TESTING FACILITY PROJECTS

Moscow SEL'SKAYA ZHIZN' in Russian 23 Mar 84 p 4

/Article by V. Konstantinov: "Proving Ground For a Subway"/

/Text/ The first line of the Moscow subway, from Sokolniki to Park Kultury, was opened in 1935. In the postwar years these subterranean expresses have begun to take passengers in Leningrad and Kiev, in Tbilisi and Baku, in Kharkov, Tashkent and Yerevan. More recently, metro construction has been proceeding in Gorkiy Kuybishev, Novosibirsk, Sverdlovsk and in Dnepropetrovsk. Subways are expected to be built in Alma-Ata and in Riga. The first line of the Minsk metro will open this year. The capital of Belorussia will become the ninth city in the country where the fastest and most comfortable form of urban transportation is operating. The operational length of Soviet metros will reach 414.6 kms, along which 276 stations will be operating.

A proving ground which will be built at the experimental base of railway transport in the Moscow suburb of Shcherbinka will help experts to assure the continued technical improvement of these metros.

To the uninitiated it may appear that the subway is resting when the doors of the metro stations close for a few short hours at night. In fact every minute even at this time of the day is precisely accounted for in dispatcher schedules: repair crews of engineers enter the tunnels, and signalmen, heat engineers, electricians and mechanics get down to work.

For practical purposes, it is not possible to test new equipment or to experiment on operating lines; the merciless march of the electronic clocks hurries the maintenance people on. The departure of trains on their runs cannot be held up even for a minute. This is why the question arose of setting up a testing facility for all metro services, which in turn was precisely the objective assigned to the 5.5 km testing track for the metro which is being built in Shcherbinka.

We took a look at the design of this future metro circular line in the company of A. N. Glonti, candidate in technical sciences, division director of the All-Union Scientific Research Institute for Railway Transport.



"Pay attention," says Anzor Nikoayevich, "to the terrain of the track. All portions are not identical: at the beginning of the test track the trains run on a surface section, (there are many of these in the existing systems), after which they enter a tunnel, from which they exit into an open gallery. In other words, on a single trip around the route, these underground blue trains travel on different track segments that by design approximate the operating conditions of the actual site."

The technical and economic structural design of this testing track, which was developed by collectives at the Zheldoproyekt and Metrogiprotrans institutes, also provides for the construction of a complete metro depot that takes into account the future development of the subway system. The waiting platforms are designed to accomodate eight-car sections, even though the normal train under current conditions consists of seven cars only. The test trains are parked in sheds from which they begin, at the command of the dispatcher, to make the rounds of the ring.

Radically new types of escalators will also receive their operational approval at Shcherbinka. For instance, escalators that do not move when there is no load. If no one is on the escalator it will automatically stop, until a passenger appears and puts his foot on the steps, then the drive train equipment will turn on again. Experts also have high hopes for another type of these "wonder-stairs," i.e. models with variable speeds. These escalators will run more rapidly during peak traffic hours, then move at slower speeds in quieter times. These and similar innovations will make it possible to save thousands and thousands of kilowatt hours of electric power, as well as increase the service life of installed facilities which run at light duty at low speeds.

The main function of the test track, however, is to test for speed. The current maximum speed on our metros is 90 kms per hour. However, on projected lines, especially those where suburban and city routes must be connected, the top speed will approach 120-130 kms per hour.

Shcherbinka has been assigned the task of reducing the traffic travel interval to a minimum of 75 seconds from the current 80. These 5 seconds will make it possible to transport simultaenously in both directions (about 100,000 additional passengers in 1 direction alone).

Other metro equipment will also be tested on this metro-ring. These include the heating and air conditioning systems that provide the necessary microclimate under the earth irrespective of the temperature of the outside air.

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## RAIL SYSTEMS

### ALMA-ATA RAILROAD FACES HIGHEST CARGO THEFT RATE

Moscow GUDOK in Russian 17 Apr 84 p 2

[Article by A. Despotovich, chief of Legal Department, Alma-Ata Railroad: 'Denounced by Comrades', datelined Alma-Ata and subtitled 'Barrier to Freight Theft']

[Text] The Alma-Ata Railroad is in last place in the railroad network in ensuring the protection of transported freight. During the past year the losses here exceeded three million rubles and have had a negative impact on the sizes of economic incentives funds and on resources allotted for socio-cultural measures. The psychological damage inflicted on the collective of the main line was also enormous.

It is a deplorable fact that railway workers themselves are participating in thefts. Marancha, Kirichenko, Mirkhalinov and Akimenko, former engineers of the Dzhambul Locomotive Depot, were sentenced to long prison terms. Severe punishment was incurred by Begaliyev, a railcar inspector of Chinkent Depot, Seribzhanov, a driver of this same enterprise, Shapovalov, an electrician of Kiyakhty Station, and Sitnikov, a crane operator of the Alma-Ata Loading-Unloading Operations Railroad District who contrived, in collusion with other persons, to haul away a 20-ton container with Indian tea. A group of embezzlers, consisting of workers of the Alma-Ata-2 Station and Locomotive Depot, was arrested.

Why could this happen?

Conditions for thefts are created because of widespread shortcomings in organizing the guarding of trains, separation of freight and documents, untimely consideration of cases of theft, and the actual absence of a permit system in freight yards.

The Alma-Ata Branch is among the most unfortunate with respect to safeguarding of freight on the main line. Suffice it to say that during the past year alone dozens of its workers were exposed and convicted of infringement on socialist property.

Workers' meetings have been held in the largest enterprises of the railroad center for the purpose of stirring the public to action for the safeguarding of transported freight in which the participants included Yu. Shukolyukov, 1st deputy chief of the railroad, M. Bisimbiyev, mittee of the Railway Transportation Workers Union, M. Aliyev, senior aide of the Alma-Ata Transport Procurator, Sh. Borshigov, senior investigator of the transport procuracy, and leaders of enterprises.

The participants of the meetings discussed the role of collectives and their public organizations in ensuring order in the transportation process. There was criticism of public inspectors and those members of specialized people's voluntary militia detachments and comrades' courts who were guilty of formalism and passivity in their work.

Over a period of several years Glushkov and Prokof'yev, former train marshals of the Alma-Ata-2 Station, were involved in thefts. It is inconceivable that not one of their comrades noticed or guessed what was going on. But the finale turned out to be bitter and left the stain of shame on the whole collective.

F. Rusin, a train marshal of Alma-Ata-2 Station, shunting dispatcher A. Lovchikov, A. Istomina, senior freight acceptance and transfer officer, and baggage-processing clerk P. Loktionov stated that it is necessary to increase demands on cadres whose work is connected with physical assets and devote more attention to their moral qualities. At the present time people who have been previously convicted, with reputations which are suspect, are allowed too close to public property. The speakers requested that the case of Glushkov and Prokof'yev be held in an open court session with the whole collective in attendance.

At the loading-unloading operations railroad district N. Sadvokasov, I. Vodogretskiy and A. Molchanov discussed the need to purge transportation of dishonest workers. At this enterprise 18 persons participated in thefts.

At the railway car depot of the Alma-Ata-1 Station F. Suleymanov, foreman of the rolling-stock preparation post, declared emphatically that it is necessary to hold workers accountable for the safeguarding of freight just as is done for ensuring traffic safety of trains. At the locomotive depot of the Alma-Ata-1 Station diesel locomotive engineer Sh. Usenov, an old worker with only a few months left before pension who turned out to be connected with a criminal group, went to the speaker's rostrum and had to utter words of belated repentance.

Conductor L. Morozova, chairman of the comrades' court of the railcar-depot repair shop of Alma-Ata-2 Station, shared impressions from one of the sessions, at which there was consideration of a case of the theft of a tape recorder by two young radio shop workers. With what indignation and poignancy their immoral act was denounced by their comrades!

This should be precisely the irreconcilable reaction of all railroad workers to crimes and even the slightest violations of order in transportation. Let the worker's initiative and conscience place a reliable barrier in the path of thieves and embezzlers. Only then will it be possible to count on success in ensuring the safeguarding of freight.

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CSO: 1829/259

## RAIL SYSTEMS

### CHIEF ENGINEER ON BAM RAILROAD CONSTRUCTION STATUS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 3 Apr 84 p 1

[Report on interview with I. Rozanov, chief engineer of Glavbamstroy (Main Administration for Construction of Baykal-Amur Main Line), at Tynda, by correspondent Yu. Balakirev: 'Intensity of Main Line'; date of interview not specified]

[Text] The decree of the CPSU Central Committee on the initiative of the collectives of the All-Union Komsomol shock-construction project -- the Baykal-Amur Railroad Main Line (BAM) -- on the opening ahead of schedule of train traffic over the full length of the railroad has gladdened and inspired all builders of this great railroad. The time for laying the "golden" connecting link of BAM has been set for the eve of the 67th anniversary of October. The first train will travel from the Lena to the Amur a year ahead of "schedule". What are the prerequisites for this significant achievement? What is happening today on the decisive sectors of the railroad right-of-way? What kind of problems are arising for the builders? I. Rozanov, chief engineer of Glavbamstroy, answers these questions of Yu. Balakirev, our correspondent for the Far East.

This is the tenth year of construction of this transportation artery, which is vitally important for the eastern regions of the country. During all these years the builders have been overfulfilling targets under most difficult conditions.

All BAM workers and production commanders have now perceived the approval by the CPSU Central Committee of their initiative as the high trust needed to justify even more intense work. While announcing their intention to open traffic a year ahead of schedule, the builders, of course, understood clearly the great scale of the task. At the beginning of the year this meant 25 million cubic meters of excavation work, 151 bridges, 99 water pipelines, and 231 kilometers of railroad track-laying. At present 145 bridges remain to be built and 55 pipelines still must be laid; track-laying has been decreased insignificantly and earth-moving operations, by six million cubic meters.



There is forward movement but we can by no means rest on our laurels. We are now developing the route sectors which are most difficult from an engineering-geological standpoint. Seismicity, avalanches, mudflows, and the mean tricks of permafrost -- all of this must be taken into account and, at times, also be experienced.

Today the main burden falls on the trusts Zapbammekhanizatsiya Mechanization Trust of Western Sector of Baykal-Amur Railroad Main Line<sup>7</sup>, Bamstroy Mekhanizatsiya Baykal-Amur Railroad Main Line Trust for Mechanization of Construction<sup>7</sup>, Bamtransvzryvrom Baykal-Amur Railroad Main Line Trust for Blasting Operations in Transport Construction<sup>7</sup>, and Bridge Construction Trusts Nos 9 and 10. The collectives of these construction subdivisions understand how much is dependent on them in the linkup sector. Competition is in full swing for the right to become an honorary passenger of the first train. Among the bridge builders the competition leader -- Specialized Bridge Construction Trust No 54, which is headed by N. Khisnyy -- has moved out beyond the Kodar Ridge. This detachment is keeping a log of its work. Last month an absolute month's record was set in drilling large-diameter holes for pillar supports -- 259 running meters. The brigade of V. Latynin, initiator of the movement for ahead-of-schedule linkup among bridge builders, covered 93 meters in one day. Then, too, according to BAM, our large-circulation newspaper, the brigade of G. Volkov achieved a fantastic result during construction of a bridge across the Kuanda River by sinking 24 meters of abutments on the same day.

The CPSU Central Committee is calling our attention to the creation of good living conditions for operational workers of the main line. This year organizations of the Main Administration for Construction of the Baykal-Amur Main Line are slated to turn over for utilization 92,000 square meters of housing, schools with capacity for 2,400 students, kindergartens for 1,420 children, and a number of other social-services facilities. Patron-construction subdivisions from Kazakhstan, Uzbekistan, Georgia, the Buryat ASSR, and a number of other republics of the country are helping us to fulfill this most important task. It is difficult to overestimate their contribution to the development of a new housing zone along the great railroad.

Schedules are tight and planned work volumes are great. Overall success depends on the quality of our cooperation with subcontracting organizations, the discipline of mutual obligations, and timely deliveries of structures and materials. Today the builders can express warm gratitude to the collectives of the Tayshet Railroad Crosstie Plant, Teplozersk Cement Plant, Khabarovsk Ruberoid-Cardboard Plant, the Blagoveshchensk Building Materials Plant, and many other enterprises. However, the construction project also has its debtors. Thus, the West Siberian Metallurgical Combine had a shortfall of 136 tons of rolled metal slated for delivery to BAM in the first quarter and the Magnitogorsk Metallurgical Combine owed us 204 tons. Such examples could also be continued. I believe that the suppliers will understand us correctly: the important commitment of the BAM collective must be fulfilled without fail.

Today 216 kilometers separate the two halves of the symbolic key to BAM. The brigades of track-fitters of A. Bondar' and I. Varshavskiy, renowned throughout the whole country, have moved ahead and, one might say, are coming down the homestretch. They will not let us down. We want to work with such efficiency that it might be possible to transport millions of tons of national economic freight over the entire extent of BAM in this current five-year plan.

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CSO: 1829/259

## RAIL SYSTEMS

### ALMA-ATA RAILROAD OFFICIAL DISMISSED FOR MISCONDUCT

[Editorial Report] Moscow GUDOK in Russian 25 May 1984 carries on page 2 the announcement that Zhakhansh Akhmetov has been relieved of duties as chief of the Alma-Ata Railroad's Alma-Ata Division. The reasons given for the dismissal are "abuse of official position for personal gains" and "serious inadequacies in management of the division."

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## RAIL SYSTEMS

### BRIEFS

**AUTOMATED SWITCHING IN VLADIMIR**--Vladimir--The job of switchman has been removed from the staff roster of the Second Vladimir Inter-industry Enterprise of Industrial Rail Transportation. An all-relay interlocking blocking system for switching and signalling has been introduced on all lines here. Only five to seven seconds instead of 15 minutes are now required to prepare and dispatch a train. Clearing switches has begun to be done automatically, by compressed air. The installation of this new technology provides the possibility to handle switching operations more efficiently. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 25 Mar 84 p 1] 8750

**PLANS FOR TBILISI METRO**--Tbilisi--The metro system in the capital of Georgia has been in operation since 1966. The length of its lines at the outset was 6.3 kilometers. Now the length of its underground lines is almost 20 kilometers. Every year more than 130 million residents of the city and its visitors utilize the services of the metro system. The dynamics of the development of the system are better perceived if one bears in mind the prospects for its subsequent growth. In 1985 the new lines "Didube"--"TEVZ" and "Samgori"--"Varketili" are to start operation. Work on them is going on full speed. The motto of the metro builders is, "Build quickly and economically and with high quality." For example, single-vault stations are being designed and constructed. The bold architectural decision has been implemented in the construction of the station "Politicheskiy Institut." The construction plan for the Tbilisi metro up to the year 2000 has already been developed. The introduction of new lines from the main artery of the city, Rustaveli Prospect, to the new mini-district Vazisubani and from the Delisi district to Vazha Pshavela is provided for. Still another line will connect two of the city's new housing developments, Gldani and Mukhiani. [By S. Babayan] [Text] [Moscow GUDOK in Russian 11 Apr 84 p 4] 8750

CSO: 1829/249

## MARITIME AND RIVER FLEETS

### GREATER WINTER USE OF RIVER FLEET URGED BY CHIEF

Moscow VODNYY TRANSPORT in Russian 15 Mar 84 p 2

[Article by V. Fomin, chief of Northwestern Shipping Company: "Transport Workers of Northwestern Shipping Company Favor Year-Round Navigation," which appears under the rubric, "To Improve Management Mechanism"]

[Text] I want to point out in advance that to place the entire fleet in year-round operation would be tempting, at first glance, but completely unrealistic. The small ships of the river fleet are not adapted for work in ice and for distant voyages. The use of motor ships in river-sea mixed navigation is a different matter. It is possible and necessary to use them on a year-round basis.

Our Northwestern Shipping Company was among the first in the system of the Ministry of the River Fleet to proceed back in 1964 to the utilization of mixed-navigation ships and to organization of the transporting of cargoes according to new technology--without transshipment in estuary ports and with the use of motor ships in winter. This became possible after the opening of the Volga-Baltic Waterway imeni V. I. Lenin for utilization and the development of a deep-water system in the European part of our country. The Volga-Baltic Waterway imeni V. I. Lenin, which replaced the Mariinsk System, permitted a sevenfold reduction of time periods for the delivery of cargoes on the Leningrad-Cherepovets sector.

The shipping company is systematically increasing the transporting of goods as a result of continuous development of the material-technical base, an increase of operations during the winter period in the Baltic, Black and Mediterranean sea basins, and also the shifting of a significant part of freight from railroads to river vessels.

We haul Pechora coal for export to Baltic Sea countries, timber from the Komi ASSR to Bulgaria, and salt from Akhtubinsk to the Baltic area. The line is active in transporting general cargoes from West European countries to Iran and also in hauling timber products for Finland from Leningrad and Vologda oblasts to Saimaa Canal ports. In 1982 an experimental voyage was made for transporting paper from points of the Saimaa Canal to Moscow, which demonstrated the high efficiency of this measure. This line, in regular operation since 1983, was supplied with three more ships last year.



The transporting of shipments in combined river-sea transport operations produces a significant effect for the national economy. Calculations show that during the shipping of 100,000 tons of coal from Cherepovets alone to Baltic Sea countries in river-sea mixed-navigation ships the economic effect constitutes over 500,000 rubles.

At the present time there is a large number of mixed-navigation ships on the balance sheet of the shipping company, in which connection a significant proportion of them is engaged in export-import operations. These ships are fulfilling over 40 percent of the cargo turnover of the self-propelled cargo fleet of the shipping company.

The organization of year-round operation is a most important reserve for increasing efficiency in the utilization of ships. After fulfilling a whole host of organizational and technical measures, the shipping company is using part of the fleet also in winter.

I would like to dwell on those organizational measures which, in the final analysis, enabled our ships to operate on a year-round basis.. This lies, above all, in appropriate additional training of cadres of ship navigators and mechanics, which culminated with the river specialists also receiving maritime certificates.

Reorientation of the shore production base and an increase of its capacity were required in connection with the fact that our ships began to operate with a longer break away from the main base of the shipping company fleet. Thus, we obtained a large floating drydock for the Leningrad REB [Maintenance and Operations Base] of the fleet. Slips were rebuilt at the Neva and Cherepovets shipbuilding and ship repair plants. It was also necessary to reorganize the fleet-administration structure. Services of foreign transport operations, all-round fleet maintenance, and a finance and currency department were organized for us in 1980.

It is necessary to say directly that our crews still have much strong criticism of the all-round fleet maintenance service. However, that which is new is not immediately affirmed--the service is still just gaining experience and, I believe, the river workers of the foreign fleet will be satisfied with its work in due time.

Over 70 ships of the shipping company are now engaged in year-round navigation. However, this is by no means the limit. Cumulative experience bears witness to their high efficiency. The operational period of their use has been increased an average of 100 days and constitutes today over 300 days. As a result of this activated reserve, the fleet of the shipping company is transporting in addition annually over 1.5 million tons of cargoes. In this process the growth of profits from transport operations is over 2 million rubles. Labor productivity in transportation has increased an average of 5-6 percent.

The utilization of mixed-navigation ships throughout the whole year is also conducive to steady employment of the crews and an increase in labor productivity, which for the crews of these ships is more than double the average for the shipping company, and the level of profitability is quite high. The possibilities of further development of year-round transport operations by the shipping company are far from exhausted. It is necessary only to increase the quality of planning of the operation of the fleet in the winter period. With this goal in mind it is essential that transportation volumes in the winter period, which have been coordinated with the Ministry of Foreign Trade USSR and the Ministry of the Maritime Fleet USSR, be ensured with real cargoes, balanced according to the directions of shipments, and exclude to the maximum ballast runs, which in different months reach 1,000 kilometers.

In this connection, during the conclusion of trade agreements it is necessary that associations of the Ministry of Foreign Trade USSR stipulate the transportation program of cargo deliveries with the use of ships of the Ministry of the River Fleet RSFSR, which can sail through internal waterways into the deep-water regions of other states.

Ships of our shipping company operate away from their own bases in the winter period. This, of course, complicates their technical maintenance, especially docking and berthing. The obvious need has arisen for establishing powerful ship repair bases for servicing this fleet on both the Baltic and Black seas.

During year-round operation of our ships a different approach is needed also for solving a number of personnel problems, including the granting of regular and compensatory leaves and partial replacement of crews.

Maritime ports render many different services to our ships. However, it should be noted that the supplying of fuel and different materials at present is not in full volume and entails big delays -- even when our funds are readily available. It is necessary to conclude a general agreement between the Ministry of the River Fleet RSFSR and the Ministry of the Maritime Fleet USSR in which the fulfillment of specific services should be stipulated, with the determination of time periods and mutual financial responsibility.

In connection with the intensive traffic of river-sea mixed-navigation ships an urgent need has arisen in a number of transport junctions of the country to seek out the possibility of increasing the staffs of commissions for non-demurrage processing of foreign departures and arrivals of ships of the Ministry of the River Fleet. This should be done as soon as possible.

In large seaports, where a large number of river ships are concentrated, it is apparently necessary to have an authorized representative of the Ministry of the River Fleet -- for prompt and high-quality on-the-spot solution of all problems which arise.

Solution of the above-noted problems will permit an increase in operational efficiency of mixed-navigation ships, on which we now count mainly as a reserve which is working and can work in winter.

At the December (1983) Plenum of the CPSU Central Committee there was discussion of a sharp improvement in the work efficiency of all branches. We can obtain precisely this from year-round navigation of our ships in the ice-free basins of the Black Sea and southern Baltic. The basic assets of the shipping company are now appraised at over 500 million rubles. The river-sea mixed-navigation fleet accounts for over half of the fixed capital. Only 72 of 122 of these ships were in operation during the winter of 1982-1983. Cargo shortages were the main reason for the downtime of 50 motor ships. This happens because there is at present no general agreement among the three organizations concerned: the Ministry of the River Fleet RSFSR, Ministry of the Maritime Fleet USSR, and Ministry of Foreign Trade USSR.

The task now set for the collective of our shipping company is to sail the whole year round. It is precisely from this that we will obtain the greatest effect with the fewest expenditures.

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## MARITIME AND RIVER FLEETS

### VOLGA FLEET CRITICIZED FOR PASSENGER SERVICE, SAFETY RECORD

Moscow VODNYI TRANSPORT in Russian 31 Mar 84 p 3

[Text] At a regular session of the Collegium of the Ministry of the River Fleet measures were considered for improving the organization and development of passenger transport operations in the Volga United Shipping Company in 1984-1985 and for ensuring safe navigation of the passenger fleet.

It was noted that transportation of passengers has obtained further development and that the material-technical base has been strengthened in the shipping company during the 11th Five-Year Plan. For services to the public 382 transit, local, suburban and intraurban lines have been opened in the shipping company. At the same time there are still shortcomings in the organization of passenger transport operations, especially in the disruption of schedules of high-speed vessels. The shipping company has not achieved a high level of passenger services on ships and at terminals.

The shipping company has not taken exhaustive measures for the prevention of passenger-fleet emergencies, as a result of which there were accidents in 1983 navigation. The collegium demanded that the management of the Volga United Shipping Company take effective measures for improvement of the organization of passenger transportation and increase of navigation safety.

The attention of leaders of the shipping company was focused on the need for adoption of energetic measures also for improvement of passenger services on ships and at terminals and for expansion of services offered to passengers. It was recommended that leaders of the shipping company and Volga Basin Navigation Inspectorate step up control over the work of the passenger fleet. Problems of the strengthening of discipline on passenger vessels, strict observance of regulations in effect, and increase of the level of passenger services must become an object of special concern for economic leaders and party and trade union organizations.

The question of the state of norm-based working capital and measures for reducing above-norm reserves of commodity stocks in the ministry and United Ob'-Irtysk and Volga Tanker shipping company was considered at the session of the collegium of the ministry. It was noted that the main administration of material and technical supply and shipping company management still do not take adequate measures to reduce above-norm reserves of commodity stocks.

The collegium made it incumbent upon chiefs of main administrations and administrations of the ministry, especially the officials of the main administration of material and technical supply and finance administration, and also leader of shipping companies, basin administrations of waterways, and other subdivisions to work more purposefully on problems of improving the state of standardized circulating capital and to take appropriate measures for a reduction of above-norm reserves.

Recommendations of the main administration of personnel and educational institutions on the conferral of the rank of "highest-class specialist" upon a large group of skilled workers of crews of ships of the transit and technical fleet were discussed and adopted together with the Presidium of the Central Committee of the Maritime and River Fleet Workers Union. A proposal of the main administration of personnel and educational institutions and the production work department of the union central committee on the conferral upon river fleet workers of ranks of best for leading professions for 1983, with the presentation of honorary certificates and monetary prizes, was adopted.

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## MARITIME AND RIVER FLEETS

### SHIPBUILDING UNDER WAY IN NOVAYA LADOGA, VYBORG

Moscow IZVESTIYA in Russian 10 Mar 84 p 1

[Article by IZVESTIYA correspondent A. Yezhelev: 'Northern Shipbuilders', datelined Leningrad Oblast]

[Text] The glory of Leningrad shipbuilding is great and a number of famous ships have been built in shipyards of the city on the Neva. Today, however, shipbuilders of Leningrad Oblast are producing a number of interesting innovations also.

First, in the town of Novaya Ladoga, which was founded by Petr I 280 years ago, the local ship repair plant, which has long since built small pusher-type tugboats and hydraulic stage loaders used in transshipment, has proceeded to the construction of the leading model of a large series of river tankers. With displacement of up to 1,000 tons of liquid fuel, they will have an insignificant draft of around two meters, which means that they will be able to go into shallow rivers. These oil tankers are impatiently awaited in regions of the North and Far East which are distant from main transportation lines. The first Novaya Ladoga tanker will undergo trials at the end of this year.

The second address is Vyborg. The shipyard here has "placed" a number of good ships on sea routes and scores of the reinforced-for-ice class of packet vessels of the "Pioner" series are the pride of the shipyard. But now the tower of the first floating (semi-submerged) drilling rig for the offshore search for oil and gas on the sea shelf looms high in the sky near the seawall close to construction completion. It is designed for operations under conditions of the northern seas and must ensure the sinking of oil wells even when buffeted by six-point rough seas. The maximum drilling depth from the "Shel'f" rig is to 6 kilometers across a 200-meter stretch of water. While starting the "Shel'f" series, the Vyborg shipbuilders are elaborating documents for the next innovation -- an automatic-hoist drilling rig in which both a ship and a non-mobile installation will be connected.

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## MARITIME AND RIVER FLEETS

### BRIEFS

**ORE CARRIER LAUNCHED**--The working year of the collective at the Nikolayev Okean Shipbuilding Plant has begun auspiciously. The collective has brought out of drydock to the final construction point a new, ocean going ore carrier, the Akademik Bakulev, a month ahead of the projected schedule. With this gift of their labor the ship builders celebrated the fortieth anniversary of the liberation of the city of Nikolayev from the fascist invaders. Collectives of the docking and berthing, assembly, final construction and painting shops made particularly important contributions to this phase of the project. Collectives of the brigades of M. Chernichenko, I. Rossoshinskiy, I. Bykovets, V. Babichev and V. Bilonenko have been working ahead of schedule and with great working enthusiasm. And the exciting moment arrived: the colorfully finished ore carrier leaves the dock and moves into the open waters of the Bug estuary. [Text] [Kiev RABOCHAYA GAZETA in Russian 12 Feb 84 p 4] 9276

**FRUIT CARGO SHIP LAUNCHED**--Volgograd--A fruit transport ship has been launched and is completing its trials. It was built by the employees of the Volgograd shipbuilding plant. It is a ship that will join a specialized fleet designed to transport tomatoes and melons from the lower Volga to Moscow, Leningrad, Gorkiy and other cities. The enterprise collective intends to deliver this new ship to the customer on V.I. Lenin's birthday. [Text] [Article by A. Bakhtin] [Moscow VODNYI TRANSPORT in Russian 20 Mar 84 p 1] 9276

**FREIGHTER FROM GDR**--Kaliningrad--Yet another freighter has been added to the fleet of the Morstransflot administration. It was built by the shipwrights of the wharf of the city of Wismar in the GDR. The refrigerated freighter has been Namgo Kaliningradskiy Bereg. This series of ships is characterized by excellent sailing characteristics, powerful engines, modern refrigeration and navigation equipment. After sea trials in the Baltic the crew, headed by Captain R. Solodukhin, raised the USSR state flag on this new vessel. [Text] [Moscow VODNYI TRANSPORT in Russian 20 Mar 84 p 1] 9276

**LARGER BARGES FOR ILI RIVER**--Alma-Ata--Large capacity barges have begun to transport cargoes to the agricultural regions of northern Tyan-Shan along the Ili river. The construction of these increased capacity boats for this mountain river takes place in Kapachagay. Current navigational conditions, in conjunction with expanded areas being planted, are increasing the pressure on this transportation artery. The use of these new, 800-ton barges, the

capacity of which is four times that of those previously used, makes it possible to transport tens of thousands of tons more cargo than last year. Thanks to this, the automotive vehicles of the sovkhozes and kolkhozes have been returned from their far off trips to work the sown areas. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Mar 84 p 1] 9276

ICEBREAKER FOR GEOLOGISTS--Yuzhno-Sakhalinsk (TASS)--The first specialized ship of the icebreaker class, built by Gdansk shipbuilders, has joined the fleet of the Far Eastern Marine Oil and Gas Deep Drilling Exploratory Expedition. Today the universal ship, Neftegaz-27, docked at the Korsakov marine commercial port. It is a ship that will help marine geologist-explorers to extend the time of seasonal summer expeditions to the continental shelf of North Sakhalin. The ship is capable of towing floating drilling platforms, and of reliably assuring their viability at sea. At present three additional ships of this type are making the trip from the Baltic to the far east for geologists. [Text] [Moscow PRAVDA in Russian 22 Mar 84 p 1] 9276

NEW NEVA GRAIN CARRIER--Leningrad (TASS)--Transporting grain is the specialty of the large capacity ship Nevskiy 22, built by the Nevskiy Shipbuilding and Repairing Plant. It has begun regular trips along the Neva from the maritime port of Leningrad to the Milling Combine imeni S.M. Kirov. Bridges are no problem for this ship, which carries in its hold a cargo that previously fit into 30 freight cars. The dimensions of its hull and superstructure allow it to sail freely along the Neva in the daytime under unraised spans. After loading the grain aboard, Nevskiy-22 makes the 17 kilometer trip to the mooring of the milling combine in 2 hours. Freight trains took three times as long to negotiate a complicated 30-kilometer route around the city. [Text] [Moscow VODNYI TRANSPORT in Russian 27 Mar 84 p 1] 9276

NEW SHIPS DELIVERED--Khabarovsk--For the first time this winter the Sakhalin Maritime Shipping Company has used the Okha, reinforced icebreaking class cargo vessel on its busy Vanino-Magadan run. The crew of the new ship is delivering various agricultural commodities in containers to its northern neighbors. There is one other motor ship of the same design also in operation, the Kemerovo. In addition, the shipping company has received a dry cargo ro-ro freighter, the XIX S'yezd VLKSM, as well as the lead ship, Vitally D'yakonov, of the class of low draft container carriers for arctic sailing. These new transportation vessels are noted for high mobility and are outfitted with electronic equipment for controlling their powerful motors and mechanisms. The crews have comfortable living and recreation quarters. [Text] [Article by V. Antonenko] [Moscow VODNYI TRANSPORT in Russian 27 Mar 84 p 4] 9276

REFRIGERATOR SHIP LAUNCHED--The shipbuilders of the Nikolayev Order of Lenin Shipbuilding Plant imeni 61 Kommunara have achieved a great labor victory. On the eve of the fortieth anniversary of the liberation of the city from the German-fascist invaders, they launched ahead of schedule a new, ocean going refrigerator ship, the Sangarskiy Proliv. In time this refrigerator ship built in Nikolayev will set out on long deep water voyages. [Text] [Moscow PRAVDA in Russian 30 Mar 84 p 1] 9276

## FISHING FLEET DEVELOPMENT

### SHIP REPAIR SYSTEM DEVELOPED FOR FISHING FLEET

Moscow VODNYI TRANSPORT in Russian 5 Apr 84 p 2

[Article by V. Skolub, correspondent: "Three Essentials of Ship Repair: Precise Diagnosis in an Environment of Many Unknowns"]

[Text] Kaliningrad--Experts at the Kaliningrad Technical Institute of the USSR Ministry of Fisheries have developed a new Dynamic System for Servicing and repairing Ships (DSTOR). Even though DSTOR is only in its initial phases, it possesses advantages which are attracting the attention of workers both of the fleet and on shore.

It is well known that a fishing vessel, or bulk carrier, is made up of thousands of complicated components, various mechanisms and equipment. The hull alone of a vessel has more than 1,500 structural components. How then, is objectivity achieved in determining its general condition and whether repairs are necessary? This was the primary reason for the development of DSTOR.

The second reason is that because of growth in the size of the fleet, and increases in its capacities and in the structural complexity of its vessels the coastal enterprises that have been carrying out preventive maintenance for the fleet, as well as its overhauls and medium repairs, have been deluged with repair work.

The third reason is increasing expenditures for repairs.

DSTOR has now begun to operate. It is a system that is capable of bringing some order to the growth in the repair volume, and of giving the work of ship repairers a more systematic focus, putting it on a more modern and scientific footing, with an adequate level of objectivity and precision. There are three essential parts to this system: recording, determining, and resolving. Recording takes place of the operational history of the components, the duration and amount of work performed by the vessel, and of the quality of equipment maintenance. A determination is then made as to the current condition using either direct or indirect indicators, and whether repairs are necessary. In a word, a program has been developed which assures the development, through a diagnostic approach,



of a complete list of repair frequencies. This then raises the question of achieving a scientifically based increase in the maximum operational time of the fleet, but not at the expense of an increase in factory capacity or in the numbers of spare parts.

Moreover, the use of large and small computers and a special purpose program has made it possible to take into consideration all technical resources and to make repairs that correspond to the actual needs and technical condition of the components of a given ship. Also, at any point in the operation of a ship it is possible rapidly to receive complete information regarding when and who, a factory brigade, ship crew, or employees of a maintenance team, carried out a specific repair of any part of the ship or its equipment, or replaced worn out parts of the motors or of any other unit.

"In our opinion", says the director of the divisional comprehensive target program "Repair", Yu. Korolevskiy, "the Dynamic System (DSTOR) develops the best aspects of the current technique of the continuous servicing of ships, and moves them to a qualitatively higher level. Experimental projects in the introduction of the dynamic system on ships by the "Zaprybpromrazvedka" have demonstrated its unquestionable advantages. Over one approval cycle for the repair positions reductions in work volume were achieved that amounted to more than 20,000 estimated hours. The industry has confirmed that the economic impact for a single ship is about 80,000 rubles annually."

"Bear in mind that a standards base was developed over a period of many decades for every ship component, as well as upper limits for wear and tear and service life. The speed with which service life is exhausted is well known. But we are not always successful in achieving a clear correspondence between standardized and actual repairs. In particular, there are times when wear and tear standards and the condition of one or another component come into conflict. DSTOR has also been designed to tie all of this together, so that work may be performed based on the actual technical condition of a unit. This constitutes an important step towards reducing the volume of repairs and for bringing some order to actual operations."

Of all types of repairs, the "treatment" of the hull is the most serious and labor intensive work. What sailor is not familiar with the following scenario. A freighter or a ro-ro ship, say, is ready to set off on a voyage. But wait--the registry is forbidding departure: a dent has been discovered in the hull, or rusted scratches on the plating of the bridge, or the deck has become thin in places. A nickel and dime problem, as they say, run of the mill for a marine working stiff. But in order to make the essential repair to the deck or to fix the dent, the ship has to be taken out of operation for a period of time and be laid up. Then, having begun repair work on one pipe or another, it becomes necessary to do a huge amount of associated jobs. After all, the hull or the underside of the deck have insulation, numerous conduits for various pipes, electrical cables and hanging equipment. All of this must be disassembled and then returned to its proper place. The time spent on these associated tasks often substantially exceeds the cost of the repairs.



Again DSTOR includes an effective technique for the repair of worn out ship components, pipe conduits, lifeboats, various platforms, the bridge and the main deck without taking the ship out of operation. Several coating techniques using glass reinforced plastics are used for this purpose. Depending on the condition of the affected areas, the coating is applied in one or in several layers. For example, a layered construction of glass reinforced plastic is able to reestablish the rigidity of the main deck, the sides of the ship and of the bottom.

Kaliningrad has a lot of practice in working with glass reinforced plastics. Inspections of hull components repaired with glass reinforced plastics by the Kaliningradrybprom Association showed that compositional constructions, i.e. made of metal and glass reinforced plastic, were in good condition and did not require replacement even after 5-6 years of operations. The corrosion process under the coating did not spread.

The economic impact of the use of glass reinforced plastic alone on the repair of 300 ships by the Kaliningradrybprom Association amounted to almost 1.5 million rubles.

One more example. Recently workers of the Korsakov trawler fleet base (BTF) of the Sakhalinrybprom Association informed the people at Kaliningrad that the annual savings which they realized from the diagnostic work and the use of glass reinforced plastics on only a few trawlers amounted to more than 500,000 rubles.

This is not surprising. DSTOR and glass reinforced plastics owe their promising future to the true enthusiasts of technical progress. These include experts at a number of sectoral institutes (first of all Kaliningrad Technical), and specialists-manufacturers who have provided and continue to provide input during the various stages of implementation. Much has been done by the chief engineer of the Zaprybpromrazvedka, B. Mil'chenko, the chief engineer of the Kaliningradrybprom Association, V. Akhromeyev. The difficult glass reinforced plastics trail was blazed by the former chief engineer of the Kaliningradrybprom Association, and the current USSR Fisheries Ministry Representative in Finland, B. Rastogruyev, group engineer V. Vitov, foreman Zh. Voronoy, group engineer of the MSS [ship-technical service] O. Glushkin, and specialists at Sakhalin.

Increasing the sophistication of ship repair and of fleet operation is possible only based on scientific and technical progress. DSTOR is capable right now of resolving many aspects of the most pressing issues.

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## FISHING FLEET DEVELOPMENT

### BRIEFS

SHIPBUILDING COOPERATION WITH GDR--A collective at the national wharf in Stralsund has been keeping up a fast pace since the beginning of the year in building modern fishing vessels that have been ordered by the Soviet Union. The local shipbuilders have set themselves the objective for this year of delivering to their Soviet customers 34 ships of the "Atlantik-333" series, an amount that is 10 percent higher than last year. The "Atlantik-333" is the result of many years of productive cooperation between the shipbuilders of the Soviet Union and those of the GDR. The ships have catching equipment and freezing apparatus that has been developed by GDR designers while the shipboard radio equipment, the navigational aids and the instruments for locating the fish have been manufactured according to the designs of Soviet specialists. Other CEMA member countries have made their contribution to the setting up of this new plant at the Stralsund wharf within the framework of the international division of labor. [Text] [Moscow VODNYI TRANSPORT in Russian 21 Feb 84 p 1] 9276

VENTSPILS PORT CONSTRUCTION BEGUN--Ventspils, Latvian SSR (TASS)--Hydro-builders have begun the construction of a new fishing port for Leningrad fishing vessels. The port will be the base of operations for trawlers of the largest fishing kolkhozes of the Leningrad oblast, boats which in the wintertime will be transferred to the ice-free Ventspils port. On the shores of the Ventrivier moorings are being built, ship repair facilities, apartment complexes. The first stage of the harbor is scheduled to be operational in 1986. [Text] [Moscow VODNYI TRANSPORT in Russian 25 Feb 84 p 1] 9276

FISHING RESEARCH VESSEL TESTED--The Baltiya Shipbuilding Yard in Klaipeda (Lithuanian SSR) has launched the lead ship in the "Vilnius" scientific research class. The ship is now undergoing sea trials. It has been designed for fishing industry research work in the Atlantic. Konstantinas-Romual'das Pyatrovich Kuzmauskas is one of the builders of this trawler. He has been working at this enterprise since 1953, and is an experienced ship assembler who fulfills his production targets by 115-120 percent. Workers of the Baltiya Plant and of the Klaipeda Order of the Red Banner of Labor commercial fleet base have nominated him as a candidate to be a deputy to the Supreme Soviet of the USSR. [Text] [Moscow PRAVDA in Russian 28 Feb 84 p 1] 9276

NAVIGATOR TRAINING CENTER OPENS--Yuzhno-Sakhalinsk (TASS)--A training center for the in-service training of navigators has been set up in one of the largest associations in the Far East, Sakhalinrybprom. Navigators will now be able to learn to operate the newest navigational equipment being provided for fishing trawlers not far from their own fleet, at one of the major Sakhalin bases, in the city of Nevel'sk. With the help of the most modern equipment they will learn to guide their ships through the narrow labyrinths of inlets under low visibility conditions. Navigators of the fishing kolkhozes of this island oblast will also update their knowledge of navigation at this facility in Nevelsk. [Text] [Moscow VODNYI TRANSPORT in Russian 3 Apr 84 p 1] 9276

FLOATING REPAIR FACILITIES--Vladivostok--Floating repair plants which are manufactured in the Far East make it possible to reduce trawler downtime. They are designed to repair fishing vessels during the time between sailings. One more such enterprise has now set up operations, the Dal'ryba Association. It is an enterprise that carries out small repairs that previously were made by the crew of a ship after sailing. Now the high quality technical servicing of trawlers and refrigerator ships has been taken over by a collective specialized to offer repair services. When a ship has not been able to acquire berthing space at a dock these floating plants can perform repair services while the ship is at anchor. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 10 Mar 84 p 1] 9276

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## PORTS AND TRANSSHIPMENT CENTERS

### CREATION OF ODESSA REGIONAL TRANSPORT SYSTEM URGED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 21 Mar 84 p 2

[Article by A. Fomin, deputy chief of the Port of Odessa, candidate of technical sciences: "Regional Transportation Center"]

[Text] In the southern Ukraine the main transportation routes gravitate towards our largest Black Sea ports - Odessa, Ilichevsk, Belgorod-Dnestrovskiy and Yuzhnyy. The largest freight flows pass through these centers. The work of these major ports of the Black Sea fleet is assured "from behind the lines" by a wide ranging railway network. Truckers and barge operators also play an active role in these transportation operations.

Transportation centers have been found to be an effective format for the integration of all of these modes of transport and for assuring the operational interaction of all the links in the transportation process. Following the example of Leningrad, such centers have been set up in Odessa and in Ilichevsk. They are composed of cooperating enterprises. There is the port (as the leading enterprise), with a railway subdivision, an office of the oblast automotive administration, and the local office of Soyuzvneshtans. The work of the transportation center is run by a coordinating committee headed by the port director. Every cooperating enterprise, of course, also has his own objectives and planned limits. But now all are working in a more coordinated manner and more effectively than before the center was organized.

The Odessa transportation workers have formulated a joint operating plan and have adopted general socialist obligations.

To coordinate the work effort, joint dispatcher shifts have been formed, as have soviets of party organization secretaries, and other forms of coordinated activity are being implemented. Reinforced comprehensive brigades of stevedores now work on a general timetable with handling brigades, with railway station weighers, with representatives of the trucking subdivisions. The statement, "it's none of our business..." is heard more rarely now.

An atmosphere of working cooperation has been solidly and thoroughly established. The relationship is based on the principle of active commitment, of comradely strictness; criticisms are giving way to constructive suggestions. The stevedores are now concerned with handling their loading and unloading

tasks according to schedule and with precisely informing the railway workers of the progress of the overall work process. For their part, the railway workers are striving to deliver to the docks only freight cars that are in good repair, confer with the stevedores as to how best to set up the goods to be handled, and how to save time in handling and other operations.

The stevedores and tallymen of the port of Ilichevsk have committed themselves, in the interest of more effective loading and warehousing of goods, to load at least an extra 1,000 kilograms of freight into every freight car. The competition to achieve maximum possible freight car utilization, which has been given the name "the thousand movement" has become widespread in the Ukraine.

Integrating the operations of cooperating enterprises has had excellent results. In 1978 the port of Odessa processed 7.5 million tons of general freight, and in 1983 more than 10 million tons. The overall number of processed freight cars grew by 10,000. But primarily, the net intensity of ship handling increased by more than 27 percent. Two hundred stevedores were released. All of these results stem directly from the synchronization of the work of transportation enterprises.

Nevertheless, these successes could have been even more striking, given the identical technical capabilities, if it had proved possible to overcome certain organizational and technical obstacles.

The existing model of a transportation center is in need of some adjustments. The operations of these centers demand that they include representatives of a number of other enterprises and organizations that are directly involved in the transportation process. Our infrastructure includes, for instance, elevators, refrigeration facilities and an oil tank farm, but each of these is subordinate authorities, with which it is difficult to coordinate operations.

There is a need to improve and to plan their activities. There currently do not exist any comparative indicators for the work of the port and that of the cooperating enterprises, and this makes it difficult to achieve an objective assessment of the final results of the activities of collectives. Nor has the issue been resolved of the order of compensation for the joint dispatcher shifts based on the results of competition.

Recently a "Statute Concerning Transportation Centers" has been adopted. It regulates to a large extent the various aspects of cooperating enterprise operations. But it in no way specifies the responsibility of cooperating enterprise directors for the precise fulfillment of shipment schedules.

One of the most serious problems in the administration of a transportation center is the timely and accurate exchange of information among the cooperating enterprises. They are supposed to constantly be in the process of assuring a smooth plan-schedule for the processing of ships, freight cars and trucks, the presence of freight in port warehouses, the arrival of freight cars with export goods, etc. To speed up the transshipment process it is



very important that at any given moment each of the partners be able to receive correct information. They should in other words be able to work in a real time environment: inquiry - answer.

An idea has been proposed for the association of individual, closely situated transportation centers in a regional system. It has been suggested that the ports of Odessa, Ilichevsk, Belgorod-Dnestrovskiy and Yuzhnyy should be considered as a single transportation organism. In our opinion, it makes sense to take the following organizational step: set up, based on the Black Sea Shipping Company, an Odessa regional transportation center. It would include, in addition to the above mentioned ports, the larger industrial enterprises which participate in the transportation process. It would be headed by a coordinating soviet. The staff of this soviet could be entrusted with the handling not only of daily operations but also with the resolution of future problems in the work of the ports and the cooperating enterprises at the borders of the region. In part, it should also be charged with the practical implementation of scientific and technical findings, the development of the material and technical base of transport, and reducing the heavy, physical work involved in loading and unloading operations.

Transportation centers have demonstrated their viability. They are undoubtedly the wave of the future. This being the case, a long term program is essential, a strategy for their development; based on clear and logical principles that will serve to regulate the most effective forms of work, and harness all participants in the transshipment process to the transportation chariot.

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## PORTS AND TRANSSHIPMENT CENTERS

### BRIEFS

VLADIVOSTOK CONTAINER TERMINAL OPERATIONAL--Vladivostok--In the Vladivostok commercial port construction has been completed on the first container terminal in the Soviet Union with the so-called transtainer system for transshipment. Transtainers are special cranes for the stacking of containers in six tiers (in our ports they are usually stacked one or two-high). This new terminal has been completed on a short deadline. It has been built with "something to spare." It will now handle 35,000 containers annually, but its productivity may be doubled, thanks to an automated control system which accounts for the containers and monitors their location. [Text] [Article by G. Dudko] [Moscow SOVETSKAYA ROSSIYA in Russian 24 Mar 84 p 1] 9276

NEW MOORAGE IN VYSOTSK--Construction has been completed of a new port moorage in Vysotsk, a small seaside town below Vyborg. The first ships have put in there. The right to pilot the first ship, the "Angarskles," was awarded to one of the most experienced pilots of the port of Vyborg, Igor' Nikolaevich Darsk, and he honorably fulfilled this important task. Under difficult conditions caused by winter fog and ice he successfully negotiated the channel. The opening of this new moorage increases the freight capacity of the Vyborg marine center by almost 500,000 tons annually. The biggest advantage of this new moorage in Vysotsk is that almost any ocean-going ship can make its way to it. Previously the shallow depths of the Vyborg channel made it necessary to ship some cargoes to Vyborg with transshipment through Vysotsk. [Text] [Article by V. Verushkin, correspondent of newspaper VYBORGSKIY KOMMUNIST] [Leningrad LENINGRADSKAYA PRAVDA in Russian 25 Mar 84 p 4] 9276

PORT OF BERDYANSK GROWS--Berdyansk--Berdyansk, a working city and a resort city, owes its founding in large part to a small grain pier founded in this location 150 years ago. Various cargoes have been processed here at different times, but the most important have always been grain and crude oil. The path from a modest, third category port to a first class enterprise outfitted with state of the art machinery and equipment was not an easy one. Nevertheless, now the most modern ships of the highest capacities are now calling here, including RO-RO ships. The port of Berdyansk continues to grow and to modernize. A highly mechanized, rapid system for processing grain cargoes has been installed here. Ships with grain are always assured a "green street," the best possible management of precious standing time. [Text] [Article by E. Lashun, engineer-technician of new technology division of port of Berdyansk] [Moscow VODNIY TRANSPORT in Russian 27 Mar 84 p 1] 9276

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